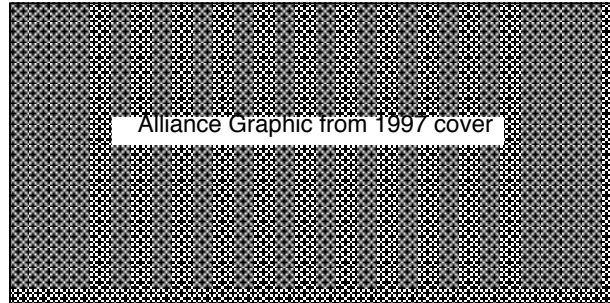


Exploring Geography



Montana

Geographic Alliance

**Adaptable
Lessons
in
Geography**

**Montana Advanced Summer Geography Institute
1998**

**Supported by
National Geographic
Montana Office of Public
The University of Montana**

Exploring Geography

Adaptable Lessons in Geography for K-12 Teacher

Funded by the Montana Geographic
1998

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APPENDIX

Grade designations are approximate and should be viewed as such. Most activities are adaptable to either higher or lower grades, and sometimes adaptable to both.

Contributors

We wish to thank the following individuals for contributing plans and ideas to this book. We apologize to anyone whose name has been inadvertently omitted. Many lessons have been adapted and modified from their original format, and it is possible the creating author's name may have been lost in the process.

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THE WORLD IN SPATIAL TERMS

Know Your Globe-Real World Geography

Presented by Lee Weldon

Overview:

Students will develop an awareness of land and water forms and be able to recognize the difference between maps and globes.

Grade Level:

Grades K-4

Time Needed:

Approximately 35 minutes

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
2. Mental maps and spatial context
3. Spatial organization of Earth

Connections to the Curriculum:

Math, Art, Language, and Science

Objectives:

1. Students will be able to identify the seven continents and the four oceans
2. Students will be able to use repetitive routine for retention of knowledge
3. Students will be able to compare and contrast differences between a map and a globe

Materials:

Large world map showing continents and oceans
World globe

Procedures:

1. Arrange to have an oversized map of the world (continents) displayed in the classroom and a globe.
2. Talk about the differences between a map and a globe, the globe being a small realistic model of our planet.
3. Explain that if we were to pretend to inflate our bodies like a ball, we could imagine them to be the same shape as the planet that we live on.
4. Demonstrate globe routine showing the locations and places of the seven continents and four oceans.

Globe routine:

1. Have students swing their hands across their chests to indicate the Tropic of Cancer. (A suggestion to help students remember the Tropic of Cancer is to hold a short class discussion of how cancer could develop in the lungs.)
2. Place hands on waist to indicate the Equator.
3. Swing hands across knees to indicate the Tropic of Capricorn. (A suggestion to help students remember this area is to remind them of their kneecaps.)
4. Move both hands in a large circular motion from head to toe to indicate lines of longitude.
5. Move both hands in a large circular motion around the body to indicate the lines of latitude. (A suggestion would be to pretend you were using a hula-hoop.)
6. Hold hands just below right shoulder to indicate North America.
7. Move hands down to indicate South America.
8. Slide hands over to left collarbone to indicate Europe.
9. Slide hands further to the left to indicate the continent of Asia.
10. Place both hands on stomach area to indicate Africa.
11. Slide both hands down beside left knee to indicate Australia.
12. Sweep both hands across feet to indicate Antarctica.
13. Hold hands to the right of North America and South America to show location of the Pacific Ocean.
14. Slide hands to the left of North America and South America to show location of the Atlantic Ocean.
15. Cradle both arms toward chin and swing left to right to indicate the Arctic Ocean.
16. Place hands to the left of Africa to show location of the Indian Ocean.
17. Place hands to the far left of Australia and twirl body in circle counter clockwise to connect with Pacific Ocean.

Evaluation:

Students will use the map or globe daily to locate the continents and oceans.

Extensions:

Students make a globe using a paper bag and place continents and oceans in correct positions.

Resources:

Atlases

Map

Schooldays, Mar./Apr. 1997

globe

Let's Explore Montana

Presented by Jolene Staton

Overview:

This lesson will familiarize the students with the major rivers, lakes, mountains, national parks, and cities of Montana. This project centers around the theme of location.

Grade:

Grades 4 – 8

Time:

50 minutes

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
2. Mental maps and spatial context
3. Spatial organization of Earth

Connections to the Curriculum:

Social Studies

Art

Objectives:

1. Students will identify Montana by its shape.
2. Students will be able to place the major rivers, lakes, mountain ranges, national parks, and dams on a map of Montana.
3. Name and locate 15 major cities in Montana as dictated by the teacher.
4. Use a Montana road map or atlas to verify the placement of cities, rivers, mountains, lakes, etc.

Materials:

Outline map of Montana

White construction paper: 12" x 18"

Candy, for symbol markers

Montana road maps or atlases

Pencils

Procedures:

1. Introduce lesson by having students brainstorm on what they know about Montana's physical features. You may want to write their answers on a large outline map of Montana.
2. Explain the purpose of today's lesson.
3. Use a pattern for students to trace an outline map of Montana. You may have a map drawn already for younger children. I find tracing a pattern helps some students become more familiar with Montana's shape.
4. Mark the dots for the cities.
5. Pass out baggies with various types of candy and/or food items that will be used as symbols for the different features they are to locate.

For example:

rope licorice for rivers	raisins for dams
gummy bears for national parks	Smarties for cities
licorice bits for lakes	star for the capital
pretzels, corn candy, or candy kisses for mountains	

6. Post a list of the different features the students are to locate and the food items that will symbolize them.
7. The students may work on their maps in small groups or alone.
8. When they are finished placing and labeling the features, they may walk around the room to look at each others' maps. Eat "maps" at conclusion of project!

Evaluation:

Use one of the following protocols for checking the work:

1. Give each student, or group, a road map of Montana to compare to their work.
2. The teacher uses a transparency of Montana and marks the features one by one while the children check their maps.
3. The children check their maps against one previously prepared by the teacher.
4. A large outline map on butcher paper is put on the floor. As a group, the features are marked. The children can adjust their maps according to the class project.

Extensions:

1. A large map is done first by the class. The children are given a baggie of candy and a map to do on their own afterwards.
2. Work in small groups. Use a road map to locate the various features and mark them on their outline map with the candy. Afterwards they may do the project individually.
3. Use the overhead and mark each feature one by one. Using candy, the children mark their maps while the teacher marks the class map. Give the students a chance to study their maps. Clear the maps and have the class remark their maps without the aid of the transparency.
4. Make the map using clay or salt dough.
5. Mark the map with other features such as Indian reservations, national forests, scenic landmarks, etc.

Literature and Geography

Presented by Donna Chambers

Overview:

To introduce various ways of developing the geographic themes by combining literature and geography.

Grade Level:

Grades K-3

Time Needed:

30-45 minutes depending on age group

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
2. Mental maps and spatial context
3. Physical and human characteristics of places

Connections to Curriculum:

Literature, Math, Mapping Skills, Geography, Language Arts, Drama/Role-play

Objectives:

To immerse students in the language of geography at a young age and provide hands-on activities to promote literacy in geography.

Materials:

Brown paper bags
Art paper, or cloth scraps and yarn
Markers, crayons or paints
Glue and scissors

Procedure:

1. Read and discuss one of the books listed in the resource list. Watch for geography ideas and locations in the book.
2. Divide class in to groups or use as a whole group project.
3. Draw a map of your story on the outside of the brown paper bag.
4. Make a map key on the brown paper bag.
5. Draw and color the setting or simple scenes from the story on paper.
6. Draw one or two important characters from the story on paper.
7. Cut out the characters and decorate them with cloth, yarn, etc.
8. These are put and kept in the bag until we tell the story another time.

Evaluation:

1. A student would be able to identify and read a map key.
2. To follow a story character by showing the journey on a map.

Extensions:

Role-play a journey.
Make collages of different cultures or geographical areas.

Resources:**Children's Literature**

My Name is Alice by Jane Bayer
Chester the Worldly Pig by Bill Peet
Ride a Purple Pelican by Jack Prelutsky
As the Crow Flies by Gail Hartman
The Three Little Javelinas by Susan Lowell
A is for Africa by Ifeoma Onyefulu
The Trees of the Dancing Goat and all books by Patricia Polacco
Going Home by Eve Bunting
Why Mosquitoes Buzz in People's Ears by Eve Bunting
How Many Days to America by Eve Bunting
The Sign in Mendel's Window by Mildred Phillips

Mapping By Memory

Presented by Kelly Matthews

Overview:

In this lesson, students will create a world map from memory by ripping shapes of the continents out of paper. After students have correctly placed all the continents in the correct location, they will label them.

This lesson can be used as:

- (a) an introduction to the year, reviewing continents,
- (b) an evaluation after learning the continents, ocean, etc., and
- (c) a final review activity at the end of the year.

Grade Level:

Grades 4-12

Connection to the Curriculum:

Social Studies

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
3. Spatial organization of Earth
4. Physical and human characteristics of places

Time:

1-2 class periods

Materials:

world map, large pieces of butcher paper (1 green and 1 blue for each group/person)
markers, tape/glue, scissors (optional)

Objectives:

1. Students will be able to sharpen critical thinking skills through the process of creating images of the continents, the relative size and shape, and placing the “continents” in their correct locations.
2. Students will be able to identify location of the oceans and the equator.
3. Students will be able to identify relative and absolute locations of major geographical features within their map (i.e., mountains, rivers, deserts, highlands and seas).
4. Students will be able to work cooperatively in a group.
5. Students will be able to gain an understanding of the concept of region (i.e., places with common characteristics).

Procedure:

1. Arrange to have an oversized map of the world displayed in the classroom (a physical map if possible).
2. Using pre-made labels, have selected students go up to the map and tape/pin the label on the correct feature, continent, or body of water. The rest of the class is responsible for the accuracy of the labeling.
3. After everything is labeled, have students clear their desks and divide the class into cooperative groups.
4. Each group will get two large pieces of butcher paper (one blue and one green), tape or glue, and a marker.
5. Each group will tear out forms of the continents from the green paper and tape or glue them onto the blue paper to create a world map. Remind students to keep relative size of the continents in mind, and of course they are trying to be as detailed as possible with the shape of the continents.
6. When they are done creating their map they may begin labeling the map.

Label: (Optional)

7 continents	Alps	Gobi Desert
4 oceans	Andes Mtns	Great Victoria Desert
Gulf of Mexico	Appalachian Mtns	Sahara
Persian Gulf	Apennines Mtns	Great Basin (Death Valley)
Arabian Sea	Atlas Mtns	Great Plains
Baltic Sea	Brazilian Highlands	Amazon River
Bering Sea	Brooks Range	Danube River
Black Sea	Cascade Mtns	Ganges/Indus Rivers
Caspian Sea	Carpathian Mtns	Mississippi River
Caribbean Sea	Caucasus Mtns	Nile River

Mediterranean Sea
North Sea
Red Sea

Great Dividing Range
Great Central Plateau
Himalayas

Ob River
Tigris and Euphrates Rivers
Yangtze River

Evaluation:

Students evaluate the accuracy of their maps.

Simon Says “North” (Direction and Location)

Presented by Maureen Edwards

Overview:

This lesson is designed to review and reinforce the concepts of direction and location as used by explorers and map readers in exploration of the world.

Grade Level:

Grades 3-9

Time Needed:

Three 50-minute class periods are the suggested amount of time for this lesson, with one day each for introduction, attainment, and assessment.

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
2. Mental maps and spatial context
3. Spatial organization of Earth

Connection to the Curriculum:

Social Studies, Geography, Math

Objectives:

1. The student will identify points of direction, the use of the compass rose, and relative directions on a variety of projection maps (including arctic projections).
2. The student will list environmental and mechanical methods for determining points of direction without the use of a map or compass rose.
3. The student will demonstrate physical knowledge of directions from his/her point of location.
4. The student will distinguish between latitude and longitude lines on a map, and cite the major determinant for each (Latitude - sun; Longitude - time).
5. The student will identify the four directional quadrants relative to 0-0, and be able to pinpoint specific points of location in each quadrant.

Materials:

Three maps, each a different projection
Compass
Pictures or artifacts of various instruments for measuring latitude and longitude
Individual student maps
Worksheets for determining location (available in a variety of skills workbooks)
Colored gym tape or yarn (indoors) or chalk (outdoors on asphalt area) 30'x30'
Latitude/Longitude markers (cards designating 0, 10, 20, 30, 40, 50 degrees)
Flash cards with sample coordinates

Procedure:

1. Begin with questions concerning the directions on a map with a focus on the compass rose. Question students about the differences or similarities in determining direction using different projections like the polar maps and eastern hemisphere maps. Move to questions asking children how they know where they are (determinants of direction such as environmental and mechanical tools). To play Simon Says: Establish north. Have students face north; using directions and combination directions have students point toward that direction. As children miss, they join the teacher in spotting others who get mixed up.
2. Discuss artifacts such as astrolabes, time clocks, compasses, pictures of old time.
3. Distribute students on the outer perimeters (north and west sides only) of a grid marked on the floor. Each student holds a card which will indicate the degrees away from 0 latitude and 0 longitude. Have each student begin at 0-0. As you display a coordinate flash card (north 10, West 30), they must *Move* themselves from 0-0 position to the right quadrant and location. They are given four flash cards in a row each time returning to home base at (0-0). At the final return to home base after four correct locations, the total time is taken and records kept for grading purposes.

Evaluation:

Anyone who completes the location grid gets a “C”, higher grades can be earned by shorter time requirements. (I let the children try as many times as they need, even after school).

Spatial Relations of the World

adapted from the presentation
Reading and Mapping the City
Presented by Cathy Riggs-Salter

Overview:

Places tell us so much about ourselves, our past, and our propensity for constant change. This lesson uses four geographic tools: observation, speculation, analysis and evaluation to explore urban and rural places.

Grade Level:

Grades 7-12 (Adaptable for children of all ages.)

Time Needed:

The activities require approximately four class periods plus one day in the community and one half-day in the local school neighborhood.

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
4. Physical and human characteristics of places
8. Characteristics and distribution of Earth's ecosystems

Connections to the Curriculum:

Social Studies

Objectives:

1. Students will be able to ask geographic questions.
2. Students will acquire geographic information through observation.
3. Students will gather information and analyze data.
4. Students will develop skills in mapping and map interpretation.

Materials:

Small field notebooks	Overhead projector
Pencils	Slide projector
Colored pencils	Several cameras
Identification badges	Portable tape recorders
Plastic overlays	Video camera (optional)
Overhead colored marking pens	

Procedures:

Lead student discussion of the following place questions.

1. Why live in an urban place? (positives/negatives)
2. Why live in a rural place? (positives/negatives) Using slides or photographs.
3. Describe the color and texture of these places.

4. Find the human characteristics of the places, buildings and population.
5. Illustrate the various functions of the urban and rural places.
Lead students on an urban and/or rural walk. (*Suggestion: Before taking students on a field walk, design badges that identify them as members of a geography class from school.*)
6. Have students record observations that help them identify their environment and provide a sense of place to give them an image of the identifying factors that give it definition and its own sense of place.
7. Create a sheet for students to use on a treasure hunt. They can check off the items they see, such as:

open	soft	young	old
dead	lively	real	artificial
public	private	safe	dangerous
past	expected in the future	closed	hard
planned	accidental	recreational	commercial
industrial	residential	high	low
a barrier	crossable	temporary	permanent
8. Find pictures that depict the chronological development of the area. Ask students what the pictures reveal about:

the natural landscape	transportation use
uses that are unchanged	changes in land use
native vegetation	demographic shifts
9. Invite long-time residents to be interviewed about memories and personal images of the area. Tape record or videotape the speakers if possible.
10. Survey the areas to list signs of good health and/or signs of decay.
11. Upon completion of the data, the students will present their findings by the use of slides, photographs, sketches, maps (as overhead projections), written surveys, taped interviews and materials deemed necessary by the student to accurately present their research of the spatial relations of the area.

Evaluation:

With 70 percent accuracy students will be able to successfully:

1. ask geographic questions
2. acquire geographic information through observation
3. gather information and analyze data
4. develop skills in mapping and map interpretation

Extensions:

1. After reviewing the collected information the student will complete a creative writing assignment that addresses the area's future.
2. Introduce students to poems and literature that speak of places. Using poems and literary passages as models, ask the students to construct descriptions of places they have known. Ask the students to share their images of that place with the class.

Treasure Hunt

open	soft	young	old
dead	lively	real	artificial
public	private	safe	dangerous
past	permanent	closed	hard
planned	accidental	recreational	commercial
industrial	residential	high	low
a barrier	crossable	temporary	expected in the future

Resources:

Bryson, Bill: 1989. *The Lost Continent: Travels in Small-Town America*. New York: Harper & Row Publishers.

Dillard, Annie. 1987. *An American Childhood*. New York: Harper & Row Publishers.

Garreau, Joel. 1991. *Edge City: Life On The New Frontier*. New York: Doubleday

Least Heat Moon, William. 1982. *Blue Highways: A Journey Into America*. Boston/Toronto: Little, Brown and Company.

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Rawls, Thomas H. 1990. *Small Places: In Search of a Vanishing America*. Boston: Little, Brown and Company

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Salter, Christopher L. Fall, 1990. "How to Read a City: A Geographic Perspective" in *Magazine of History*. Bloomington, Indiana: Organization of American Historians. Vol. 5, Number 2, pp. 68-71.

Sullivan, Charles, Editor. 1989 *Imaginary Gardens: American Poetry and Art for Young People*. New York: Harry N. Abrams, Inc

Toss the Globe

Overview:

This activity is a game that will develop an understanding of the world and the relationship of land and water.

Grade Level:

Grades 1 - 12

Time Needed:

20 minutes

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
4. Physical and human characteristics of places

Connection to the Curriculum:

Social Studies, Language Arts

Objectives:

1. Students will realize that there is more water than land on the Earth.
2. Students will be able to identify continents and oceans.
3. Students will gain a mental map of the world.

Materials:

Plastic inflatable globe, graph paper

Procedure:

1. Toss the globe to a student and ask him or her to catch it with both hands.
2. Ask the student to identify places: Where is your right index finger, your ring finger, or your thumb?
3. Have the children, depending on their age, determine if their index finger is north or south of the equator, or north of the Arctic Circle, south of the Tropic of Cancer, etc.
4. Ask the children to determine relative location of their right thumb to their left thumb using continent names and oceans.
5. Have the children tally how often their thumbs land in water. Make a line or bar graph to illustrate the outcome.
Options:
 6. Have the children draw a mental map of the world.
 7. Have them identify the continents and oceans. Allow them time to use the atlas to evaluate their success.
 8. Allow the children to toss the globe to one another and ask questions as above.

Evaluation:

The students will be able to identify the continents and oceans.

PLACES and REGIONS

Continents

Presented by Susan Johnson

Overview:

Students will be able to analyze and characterize each continent by appropriately placing pictures that represent places on the correct continent.

Grade Level:

Grades 1-4

Time Needed:

35 minutes

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
4. Physical and human characteristics of places

Connection to the Curriculum:

Social Studies, Science

Objectives:

1. Students will be able to identify the theme of region by the selected criteria (continents).
2. Students will be able to sharpen critical thinking skills through identification of the continents and physical and human characteristics of each one.
3. Students will be able to compare and contrast the different continents by the pictures selected.

Materials:

Large world map
Pictures from National Geographic or other sources
glue
scissors
construction paper

Procedures:

1. Arrange to have an oversized map of the world (continents) displayed in the classroom.
2. Clip seven (or more) pictures that represent place. These can be from magazines, newspapers, or photographs if you have them. The teacher will provide these the first week or so. After that, as the class discovers the world, you can continue adding to the collection. The pictures may follow a theme. For example, the first time that you do this have only pictures of animals that are specific to a continent. Then you may have pictures of maps of countries, architectural structures, etc.
3. Divide the class into cooperative groups. Give each group a picture and have the group members match it to a continental region.
4. As a class, place the pictures on the correct continents and have the groups explain why they believe it belongs in that region.

Evaluation:

The students will be able to meet objectives with 80 percent accuracy.

Extensions:

1. Each week, introduce a new theme to the class using this same format to discover each continent in a new way.
2. This lesson can easily be made more difficult for upper grade levels. The students can locate their own pictures and identify what theme of geography the picture represents.
3. Use maps that represent smaller scales such as a single country, state or region, and place pictures in the appropriate areas.
4. Apply latitude and longitude markers to each continent.

Dodecahedronize the Five Themes of Geography

Presented by Roxanne Mitchell

Overview:

This lesson will serve as a review/reinforcement activity to help the students gain a working knowledge of the five themes. It will provide a three dimensional classroom display as closure to a region of study.

Grade Level:

All levels

Time Needed:

3 days, 45 minute blocks of time

National Geography Standards:

- 4. Physical and human characteristics of places
- 6. Culture and experience influence perception of places and regions
- 10. The nature and complexity of Earth's cultural mosaics

Connections to the Curriculum:

Social Studies, Language Arts, Geometry

Objectives:

- 1. The student will be able to describe each of the five themes of geography.
- 2. The student will be able to apply the framework of the five themes to an investigation of a country or region.
- 3. The student will be able to create a display for student reference.
- 4. The student will be able to work cooperatively while reinforcing and expanding their understanding of the five themes.

Materials:

12 copies for each group of dodecahedron pattern, or six copies of the cube pattern for primary, National Geographic, or suitable magazine articles, markers, scissors, glue, paper punch and string.

Procedures:

- 1. Divide the class into cooperative groups, four-five per group would be ideal. Have the groups use one side of the dodecahedron to illustrate their group's designated theme.
- 2. The group will begin by looking at pictures and reading captions to try and find examples of each of the five themes, including one example of each subtopic of the themes. The pictures will be cut out of the magazine and glued onto the face. If this is being done in class with sufficient time, the students would be encouraged to add borders or color to their display. If no examples of a theme are found, students shall scan the material for an example, and either cut out the appropriate section, write a summary, or draw a picture to represent the appropriate information.
- 3. After all 12 faces are complete, the group will assemble their dodecahedron. This is best accomplished by doing two "bowls" with six sections and combining the two parts.
- 4. The dodecahedron would be displayed in the classroom. This could either be used as an introductory lesson or conclusion to a region of study.

Evaluation:

During the presentation, students will be able to successfully define and apply their explanation of the five themes of geography to their dodecahedron or cube.

Extensions:

1. Make a dodecahedron of your summer vacation.
2. Use as a geoportrait.
3. Use as a book report.

Five Themes in Literature

Presented by Jack McLeod

Overview:

This lesson can be used to overview the five themes of geography in an integrated geography/literature unit. If the five themes have been introduced previously, then this lesson can serve as a review/reinforcement activity. The lesson uses the novel *Call It Courage*, but can easily be adapted to any work of literature.

Grade Level:

Grades 4-12, but easily adapted to all grade levels

Time Needed:

45 minutes

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
4. Physical and human characteristics of places

Connections to the Curriculum:

Language Arts, Geography

Objectives:

The Student will be able to:

1. describe each of the five themes of geography.
2. apply each of the five themes to the novel *Call It Courage*.
3. describe how each of the five themes is related to the novel.

Materials:

Call It Courage (one per student)

World atlas or world map (one per group)

Newsprint or large sheet of paper (one per group)

Markers

Maps, The Landscape and Fundamental Themes in Geography (one per group)

Map handouts of Polynesia (one per group)

Five theme cards

Procedures:

1. Divide the class into five cooperative groups. Prior to grouping, the classroom should be arranged into five work areas. Provide each area with the necessary materials. Assign each group one of the five themes: LOCATION, PLACE, HUMAN-ENVIRONMENTAL INTERACTIONS, MOVEMENT and REGION.
2. Each group member is to read a fractional portion of chapter one. (When the lesson is presented in the classroom, the first chapter is assigned to be read as homework prior to the lesson.) When done reading, each member reports back (summarizing) on what has been read.
3. Using *Maps, The Landscape, and Fundamental Themes in Geography* and five theme cards, each group prepares an explanation of that theme for the large group. Fold the chart paper in half. On the top half write an explanation of the group's theme.
4. Using their books, maps, atlases and previous knowledge, each group is to illustrate (through words and pictures) their theme depicting Polynesia prior to the arrival of the Europeans. Use the bottom half of the paper.
5. Each group presents information on its theme and its relation to *Call It Courage*.

Evaluation:

Have the students demonstrated knowledge of the five themes?

A Geographical Me

Presented by Sandy Hadlock

Overview:

This lesson will introduce and personalize the five themes of geography.

Grade Level:

Grades 4 - 12

Time: 1 class period, home assignment time, or 1 or more class period for presentations.

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
2. Mental maps and spatial context
5. Regions interpret Earth's complexity
6. Culture and experience influence perception of places and regions

Connections to the Curriculum:

Social Studies, Language Arts, Art

Objectives:

1. Students will be able to state the five themes, with definition and example for each theme.
2. Students will create a poster showing each theme as it relates to them.

3. Students will orally explain their poster to class.

Materials:

Overhead projector
Transparencies and markers
Handouts

Procedures:

1. Distribute the "Geographical Me" note sheet.
2. Using transparencies, illustrate the five themes using a diagram of the neighborhood.
Students will take notes as each theme is explained, and list examples.
3. Pass out assignment for developing poster and explain it.
4. Hands-on activity with each student doing at least one theme on his poster.
(More, if time permits.)
5. Oral presentations of posters.

Evaluation:

Teacher will evaluate the poster and the oral presentation, based on criteria and directions given to students when project is assigned.

"Geographical Me" Note Sheet

1. Location:

Definition:

Example:

2. Place:

Definition:

Example:

3. Human-Environmental Interaction:

Definition:

Example:

4. Movement:

Definition:

Example:

5. Region:

Definition:

Example

"Geographical Me" Poster Instructions

In order to make the "Five Themes" more personal, you will design a "Geographical Me" poster that tells about you using the five themes. Using a piece of poster board or construction paper for your project, label spaces for the five themes. To help you with this, you may do the following:

1. Draw maps illustrating "LOCATION."
2. Use personal pictures of your home or neighborhood to describe yourself in the geographical term "PLACE."
3. Use newspapers or magazines to illustrate "HUMAN-ENVIRONMENTAL INTERACTION."
4. Trace your daily "MOVEMENTS," to home or school, or you can trace the places your family has lived or vacationed.
5. Use postcards, larger maps, newspaper articles, or magazine selections to describe "REGION."

This assignment requires a good deal of preparation outside of class time. The Guidelines above are just that ... guidelines; if you wish to do something different that still explains the theme, that's great, too! Help is available if you need it, so please ask!

This assignment is due: _____

You will be asked to briefly explain your poster to the class and tell about your descriptions for the different themes.

Goop to Geoforms

Presented by Jean Muhlbeier

Overview:

Students will use basic materials in the creation of three dimensional physical features, identification and spatial relationship of those features, and the application and use of color in identifying those features.

Grade Level:

Grades 1-12 (with adaptation)

Time Needed:

3-5 class periods

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
3. Spatial organization of Earth
4. Physical and human characteristics of places
8. Characteristics and distribution of Earth's ecosystems

Connection to the Curriculum:

Social Studies, Physical Sciences, Art

Objectives:

1. Students will create features of the geographic landscape using magic modeling goop and paint.
2. Students will explain the meaning of geographical terms.
3. Students will apply the five themes of geography and the world.

Materials:

5'x5' cardboard squares
Magic Modeling Goop (see enclosed recipe)
glue
popsicle sticks
tempera paint

Procedures:

Prior to the lesson the teacher should prepare/assemble the required materials and provide the students with instruction into the five themes of geography.

Day 1:

Assign each of the five themes a color, i.e. yellow=location, pink=place, green=movement, orange=human/environmental interaction, and blue=region. Assign

students to groups and then give each group a geographical term to define. Avoid duplication of terms. Give each student/group a set of five index cards. Students decide as a group which term can best be applied to each theme. Appropriate card colors are given to each student to correspond to the selected theme. Each student must include the following on the back of each card:

- a. Name of the geographic theme
- b. A short explanation connecting the theme and the term to the world

Example:

Region: Pacific Rim

Most volcanoes are found along a belt called the Ring of Fire, which encircles the Pacific Ocean. Volcanic activity occurs in such places as Hawaii, Iceland, and the bottom of the ocean.

Given "goop" and cardboard base each student creates a 3-D geoform to illustrate the meaning of his/her term.

Day 2

Students paint the dry geoforms. Students give mini-presentations within their group. Using the geoform and a guide, the student-creator explains the term, definition, theme and its application to the world.

Day 3

Each group presents their geoforms to the entire class. Display geoforms for viewing.

Magic Modeling Goop Recipe

- 2 cups table salt
- 2/3 cup of water
- 1 cup cornstarch
- 2/3 cup of water

Mix salt and 2/3 cup of water in a saucepan, stir until mixture is well heated (3-4 minutes). Remove from heat and add cornstarch which has been mixed with 2/3 cup of water. Stir quickly. If the mixture does not thicken, return to low heat and stir until mixture thickens. The mixture is difficult to stir but undercooking leaves the mixture sticky. It should form a soft, pliable mass. The mixture can be stored in a jar or plastic bag and does not require refrigeration.

Note: Five lbs. salt and two cups water to 1 lb cornstarch yields 10 tennis ball-sized balls of "goop." One ball will complete two geoforms. Excess goop may be wrapped in plastic and stored up to one year.

Evaluation:

1. A participatory grade should be assigned to each student that evaluates their ability to work cooperatively and independently, follow directions, focus on project success, and overall effort. Assign a grade for artistic impression.
2. Use geoforms as basic questions for a testing mode where other students must correctly identify the features of each geoform.

Place Poem

Presented by Lou Ann Get

Overview:

Everywhere you are is some place. Our lives are grounded in our place. What makes your place special or significant? This lesson provides an outline of features about a location. The students research a location to discover specific information about this place and then put the information in a poem format.

Grade Level:

Grades 5 - 8

Time Needed:

One to two class periods; may require homework time

National Geography Standards:

4. Physical and human characteristics of places

Connection to the Curriculum:

Social Studies, Language Arts

Objectives:

1. The students will use a variety of resources to research the physical and human characteristics of a place.
2. The students will create a poem listing and describing the physical and human characteristics of a place.

Materials:

Physical maps
Historical documents/resources
Reference books about specific locations
Newspapers (to determine current problems)

Procedures:

1. Review the theme of Place: Physical and Human Characteristics.
2. Review the categories in the poem. (Additional categories/lines in the poem may be added.)
3. Have students research a specific place to find information for each line in the poem. (All students may research the same location or a variety of locations may be assigned.)
4. After students have done the research, have them construct phrases and sentences that will bring the poem together and give the reader a sense of this place.

Evaluation:

Check for completion of the poem and the inclusion of specific information that relates to the theme of place as it applies to the location.

Extensions:

The research and poem can be focused on a specific natural or cultural feature of a location, such as water resources, human diversity, etc. Students could be divided into small groups with each group focusing on a specific feature of place.

Place Poem

Name of the place
Description of physical features
List of native plants
List of native animals
Description of climate
Identification of early settlers
Description of historical trends that have shaped this place
Two issues or problems of this place
Name of the place

Water Resources

Name of the water source or supply
Four physical features of the land where this water is found
Three economic activities that are based on this waters' presence
Explanation of how the water is made available to people
Amount of precipitation this area receives
Number of gallons of water that the people in the area use daily
Historical events that have shaped the use of this water
Issues or problems related to this water
Name of the water source

Swahili, Anyone?

Presented by Barb Robinson

Overview:

To provide a lesson in which language is a characteristic of both place and region.

Grade Level:

Grades 6-8.

Time:

45 minutes.

National Geography Standards:

4. Physical and human characteristics of places
6. Culture and experience influence perception of places and regions
10. The nature and complexity of Earth's cultural mosaics

Connection to the Curriculum:

Social Studies and Language Arts.

Objectives:

1. Learn Swahili words and phrases.
2. To write a short story using some common Swahili words and phrases.

Materials:

Jumbo Means Hello, Multicultural Explorations p.p. 191-192 (included), world map, Nyokabi overhead (make from attachments).

Procedure:

1. Introduce myself and say, "Jumbo sauna, watoto!" Write these words on the board and have the students repeat them. Ask them to guess what these words mean (Good day, children!).
2. Language is a characteristic of both place and region. Locate Kenya on a world map. Kenya's national language is Swahili. Even though each tribe has its own language, having a common language like Swahili allows communication and understanding to take place among people.
3. Read and discuss the book Jumbo Means Hello. Students can repeat the words and, through discussion, concepts about traditions and customs can be developed.
4. Introduce the name charts to students. Allow them to select an African name for themselves. Explain that these names are from many tribes and languages.
5. Read NYOKABI from the overhead. Review the paragraph sentence by sentence, asking the students for their thoughts on the best translation.
6. Introduce the Swahili charts. Have the students look at and pronounce the words. Reread NYOKABI to check for accuracy in the translation.
7. Have the students write short stories substituting Swahili words whenever possible.
8. Have the students read their stories to the class. Afterwards, classmates should translate and summarize the stories.
9. Ask the following questions: What language characterizes this place called Kenya?

Evaluation:

With 70 percent accuracy, or a level determined by the teacher, the students will demonstrate an understanding of Swahili words and phrases and be able to write a short story using these words.

Extension:

This lesson may be used to learn common words and phrases from any language in any place and region of the world.

Resources:

Multicultural Exploration

Nyokabi

Nyokabi was reading a kitabu. Her mama and baba had given it to her on her birthday. It was a story about a baby punda mlia. Just then, Nyokabi's rafiki, Ogalo, came to the door. He said, "Hodi?"

Nyokabi said, "Jumbo sauna, Ogalo! Karibu!" She began to tell him the story of the punda mlia in her kitabu.

African Names

Boys

Adhieumbo	Magere
Ankole	Mdinini
Chelegat	Mugimba
Chemjar	Nyunja
Kamau	Ochiel
Kasuka	Ogalo
Kilei	Omondi
Kimwaki	Sakwa
Kume	Wanjala
Lumbwa	

Girls

Adero	Nyengula
Alegro	Nyokabi
Andito	Tapkesos
Anyango	Teri
Chinyunja	Thanga
Fihliwe	Velaphi
Iteso	Vuyile
Ngina	Wairimu
Nomdudo	Wambui
Nompofu	

Swahili

Guidelines:

1. There are only 24 alphabet letters. There is no Q or X.
2. G is hard as in go.
3. R is rolled like the Spanish r.
4. Dialects differ from area to area.

People

abi	brother	ni	I
baba	father	rafiki	friend
mama	mother	u	you (singular)
mime	me	watoto	children
mtoto	child	wewe	you (plural)

Numbers

moja	one	sita	six
mbili	two	saba	seven
tatu	three	nana	eight

nne	four	tisa	nine
tano	five	kumi	ten

Animals

churi	leopard	punda mlia	zebra
dudu	insect	samaki	fish
kiboko	hippopotamus	simba	lion
kifaru	rhinoceros	tembo	elephant
ngombe	cow	twiga	giraffe

Common Words and Phrases

Aha	wonder	Kwa heri	good-bye
Asante	thank-you	Leo	today
Chai	tea	Maji	water
Chakola	food	Mingi	many
Embe	mango	Mkubway	big
Hapana	no	Mzuri	good
Harambee	pull together	Ngapi?	how many?
Hodi?	May I come in?	Nyama	meat
Hopa	here	Ona	see
Jumbo	hello, good morning,	Penda	like, love
	good evening	Sana	very much
Karibu	come in	Schule	school
Kazi	work	Shamba	garden
Kesho	tomorrow	Soma	read
Kidogo	small	Tafadhali	please
Kitabu	book	Tanya	do, make

To the Center of the Earth

Presented by Susan Watne

Overview:

Once completed, this walk-in globe can be used at all grade levels for numerous activities across the curriculum.

Grade Level: 6-8

Time Needed: 7-10 hours

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
3. Spatial organization of Earth
5. Regions interpret Earth's complexity

Connection to the Curriculum:

Science, Art, Social Studies

Objectives:

1. Students will construct a giant, air-filled, walk-in globe of semi-clear plastic.

Materials:

- 1 roll 12' x 100' of .4mm semi-clear plastic used for drop cloths, etc.
- 6 sets of permanent magic markers
- 700' roll of duct tape
- 300' string
- Large box-style cooling fan, the more powerful, the better
- Globes, atlases, world maps

Procedures: Sphere, lines of latitude and longitude

1. Construct one hemisphere at a time, finishing it completely. Otherwise, this thing takes too much room.
2. Cut plastic into four 25' x 12' pieces.
3. Tape pieces into two 25' x 24' pieces using duct tape. The tape forms the Prime Meridian and the International Date Line. The poles are located in the exact center of each piece of plastic.
4. Use a 12' piece of string as a radius to draw a circle on each plastic. Mark the center as either North Pole or South Pole.
5. Cut out circles, save scraps for air tunnel from fan to globe. You now have northern and southern hemispheres.
6. Mark 90 degree angles on circles using 18' string to mark intersecting arcs from points where tape meets edge of circle (points A and B intersecting at point C). Mark angles with black marker.
7. Mark 45 degree angles using string to mark intersecting angles from points at 90 degree locations on edge of circles. Use black marker to mark 45 degree lines.
8. Mark 15 degree intervals by using string to measure distance of 45 degree arc on circle edge. Divide distance into three equal sections and mark each section on circle edge. Drawing a line between the center point and marks on circle edge should give 15 degree lines.
9. Draw lines of latitude by drawing concentric circles from each pole with 2' increases in radius for each circle. Use string for this, with one student holding an end of the string on the pole and another student marking the latitude at the other end of the string. Each 2' increase measures 15 degrees in latitude.
10. Draw in Tropics lines by halving the distance between 45 degrees and equator.
11. Draw in Polar circles by halving the distance between 45 degrees and the poles.

Continents

1. Use globes to accurately plot outlines of continents. Wall maps and atlases will help, but globes will give the most accurate information.
2. Label latitudes, longitudes, Equator, Tropics, and Polar circles on **inside** of plastic. Color continents and add any desired physical features (rivers, lakes, elevations, mountains, etc.).

3. Tape Northern and Southern hemispheres together at Equator, using duct tape. Leave an open slit about 5' long in Southern hemisphere along International Date Line for students to enter and exit.

Air Baffle

1. Construct a baffle using salvage plastic, duct tape, and string which will funnel air from box fan to globe. Tape one end onto the side of the globe, then cut out that section of globe so air can flow unrestricted into the globe. The other end must be able to attach and detach to the fan. Use string to make a drawstring to loosen and tighten. To inflate globe, place on floor in large room, North Pole side up. Turn on fan and step back. Inflation takes only a couple of minutes.

Hint

1. Buy decent magic markers and wear old clothes for coloring in the continents as invariably some marker will rub off on you. Have good ventilation while using the markers.

Evaluation:

Students accurately place and color continents. Students use latitude and longitude to place continents.

Extensions:

1. Once completed, the globe can be used for numerous geography, social studies, and science lessons.
2. Use tape to attach pictures of people, animals, and resources to each continent for science lessons on oceans, animals, etc.

PHYSICAL SYSTEMS

Geo Cookies

Presented by Micki McWilliams

Overview:

This lesson will provide a hands-on activity to reinforce skills in identifying and locating the major physical features of the United States.

Grade Level:

Grades 3-9

Time Needed:

50 minutes

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
2. Mental maps and spatial context
7. Physical processes shape patterns of Earth's surface

Connection to the Curriculum:

Geography, American History, Math, Art, Home Economics

Objectives:

1. To provide students an opportunity to apply the concepts of the fundamental themes of location, place, and region.
2. To reinforce skills in identifying and locating the major physical features of the United States, times of history, and scale.

Materials:

Atlas
Outline maps of the United States
Sugar cookies
Colored icing (blue and green)
Mini chocolate chips

Procedure:

1. Review the fundamental themes of location, place, and region.

2. Have students make a list of the geographic regions of the United States and some physical characteristics of each. Have students compare lists.
3. Give each student a outline map of the United States. Students should label the major physical features of each region on the map.
4. Give each student a sugar cookie shaped like the United States, a small amount of blue and green icing, and mini chocolate chips. The green icing should be spread evenly over the entire cookie. The blue icing should be used to outline the river systems and the Great Lakes. The chocolate chips should be placed on the cookie to show the mountain ranges.

Evaluation:

Evaluation will be done through student participation and teacher observation.

Extensions:

1. Cookies could be made in the shape of the county, states, continents, or the world.
2. See lesson titled "Pizza Geography."

Resources:

Geographic Education National Implementation Project map
(GENIP)

Pizza Geography **(Cookie extension)** **Presented by Lorrie Wolverton**

Overview:

This is a fun hands-on activity to reinforce the five themes of geography. Students will create a pizza map that includes something from each of the five themes. This is Pizza and map making at its best.

Grade Level:

Grades K-8

Time/Needed:

A 45 minute class period at the end of a map unit

Materials:

Atlas and various other map resources
Pepperoni, grated mozzarella, cooked sausage, pizza sauce
Miscellaneous toppings
Pan, oven
Refrigerator biscuit for each student

Procedure:

1. Review items found on maps that teach the five themes.

2. Using map resources, students create a shape of an area on the dough.
3. Using various topping, students create features on their dough map.
(pepperoni-lakes, sausage-mountains, peppers-forests)
4. Students then create a map key to show what each topping symbolizes.
5. Bake at 350 degrees until golden brown.
6. Evaluate understanding as the students present to the class their own pizza map creation.
7. Eat and enjoy!

Montana Rivers

Presented by Linda Ferguson

Overview:

The students will make a plaster of paris model of the major geographical features found in Montana.

Grade Level:

Grades K-12

Time Needed:

3-5 days

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
7. Physical processes shape patterns of Earth's surface

Connections to the Curriculum:

Montana History

Objectives:

The students will:

1. Name the major rivers of Montana.
2. Locate the major rivers of Montana on a map.
3. Name two reasons why rivers were important to the early and recent inhabitants of Montana.
4. Make a 3-dimensional replica of Montana highlighting rivers and mountains.

Materials:

1. Plastic 3-dimensional relief map of Montana
2. Plaster of Paris

Procedures:

Map Identification

1. Give students a blank map of Montana with rivers and mountains drawn on.
2. Identify Montana land features on an overhead with student assistance.
3. As the features are identified, give students a better grasp of location by having them acquaint the feature to something else. Ask students questions such as:
Is this river west or east of the Continental Divide?
Is this river located in the northern or southern part of the state?
What major Montana city is located near this river?

Salt Dough Maps

1. Students bring their own supplies and mix the salt, flour, and water themselves.
2. Pour the mixture on a map of Montana.
3. Using some type of object like a stick or old pencil, students will carve out the rivers, and if necessary, build up major mountain ranges.
4. After their replica is completely dry, students will paint the rivers, mountains, and the rest of the state.
5. Students make a key to identify their rivers, mountains and anything else on their map.

Plaster of Paris Maps

1. Mix plaster of paris mixture.
2. Pour plaster of paris mix into the backside of a 3-dimensional map of Montana.
Let stand until dry.
3. Place a board over the map and quickly flip it over.
4. Carefully lift the mold off the plaster map.
5. Paint and label the plaster map with the major rivers and land features.

Evaluation:

1. Have students go to a blank map and name a feature you pick out.
2. Check student maps for accurate labeling of rivers and land features.

Mountain Building and Geologic Layering

Presented by Doug O'Dell

Overview:

This lesson is designed for a multi-age group but could easily be adapted for a single grade level. It is one of numerous lessons and themes that were developed during a year-long study of Glacier Park by the teaching staff of West Glacier School. The focus on this lesson is a "hands-on" approach. Cooperative groups were used mixing students from grades K-6 "pods." Older students were designated as team leaders and all upper grade level students were expected to help and assist the lower grade students.

Grade Level:

K-6 multi-age groups or adapted to a single grade level.

Time needed:

1 hour

National Geography Standards:

Physical processes shape patterns of Earth's surface

Connection to the Curriculum:

Science

Objectives:

1. The students will demonstrate an understanding of how geologic layers are formed by creating a mountain mural
2. The students will demonstrate an understanding of how pressure helps create mountains by using a paper model
3. The students will define the term "orogenesis"

Materials:

Geomorphology notebooks
scissors
markers or crayons
butcher paper (at least 4 different colors)
pencils
notebook paper

Procedures:

1. The teacher will place students in predetermined groups.
2. The teacher will display an overhead diagram of a "folded mountain" with the following question: "What caused this to happen?"
3. The students, in groups, will brainstorm answers to the question.
4. The team leaders of each group will share their answers with the entire class.
5. The teacher will discuss the various answers and use them as a lead-in to the lesson.
6. The teacher will present a lesson on mountain building focusing on the concept of pressure.
7. The students will be given a piece of paper and, by following the teacher's example, will force the paper to fold up or down.
8. The teacher will present the next portion of the lesson focusing on geologic layers and how they are formed.
9. The students, in groups, will show folded mountains with geologic layers.
10. The teacher will attach the panels together and will generate a discussion revolving around folded mountains and the layers.
11. The teacher will discuss and define the term "orogenesis."
12. The students will enter the term "orogenesis" in their geomorphology notebooks.

Evaluation:

1. The teacher will utilize various questioning strategies to determine if objectives are being met.
2. The teacher will observe students during the course of the lesson to determine comprehension to the material that is being presented.
3. The teacher will review the "geologic notebooks" to ensure definitions were entered correctly.
4. The teacher will utilize the team leaders as assistants to help the teacher discover which students are not comprehending the material and are in need of further instruction.

Extensions:

1. Peanut butter and jelly sandwich activity:
The teacher will have each group make PBJ sandwiches in order to visually see concept of layering. The teacher will use a straw to demonstrate how "core sampling" works by taking a core sample of a part of the sandwich. The teacher will finish this activity by stepping with full body weight on the sandwich to demonstrate how weight and pressure "compact" different geologic layers over eons of geologic time.
2. The students form groups of 3-4 and use their bodies to resemble what geologic layers are like.

Topo Travel Agent

Presented by Kathy J. Doolittle

Overview:

Students will use previously learned skills to show that they can correctly locate an unknown mystery quadrangle map, research the immediate area surrounding the map, write a detailed report about the area using the five themes of geography, and plan a vacation to the area.

Grade Level:

Grades 7-12

Time Needed:

Two class periods and two additional weeks for independent work

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
4. Physical and human characteristics of places
7. Physical processes shape patterns of Earth's surface
8. Characteristics and distribution of Earth's ecosystems
11. Patterns and networks of economic interdependence
15. Physical systems affect human systems
16. Meaning, distribution, and importance of resources

Connection to the Curriculum:

Social Studies, Language Arts, Math, Research Skills

Objectives:

1. Students will reinforce skills plotting latitude and longitude.
2. Students will read and interpret topographic maps.
3. Students will locate and use a variety of resources, including atlases, encyclopedias, the Internet, travel bureaus, human resources, and vertical files.
4. Students will work cooperatively with others.
5. Students will problem solve to determine the location of the mystery map and the best resources for their research.

Materials:

Instruction sheets, check sheets, atlases, Internet access, globes, encyclopedias, vertical files, white construction paper, rulers, mystery quadrangle maps, colored pencils

Procedures:

1. Order 15 individual 7.5 minute topographic maps from the U. S. Geological Survey (USGS). Ordering information follows. Select maps from a variety of states and geographical areas. Make certain each map has some identifying feature, such as a river, highway, mountain range, village, or lake. Stay away from maps of obvious features, such as cities, interstate roads, nationally-known parks, or monuments. (Hint: any university library should have collections from which to select the maps you desire.)
2. Completely black out the state locator map, titles, and all labels on the map margin. Do not black out latitudes and longitudes. Number each map on back. Laminate maps.
3. Students are to be placed in pairs and issued a mystery topographic map.
4. Instruct students to investigate the map to find its **exact** location. They must research the area to provide specific required information and to create a 1-2 week vacation to the area. This must be presented in written report format and must include pictures or postcards from the area, three graphs, a map, and a creative vacation itinerary. Extra credit will be allowed for promotional items from the area, such as food items, T-shirts, license plates, vacation brochures, key chains or pins, bumper stickers, etc.

Evaluation:

1. Students will successfully locate their mystery map
2. Students will complete all items on the student checklist and hand in the completed report.

Extensions:

1. Have students present their reports orally to the class.
2. Contact schools within the topographic areas and arrange for student pen pals.

Resources:

USGS map ordering: 1-800-USA-MAPS

Topo Travel Agent--Student Instructions

Members of your group:_____

Topo map number:_____ Class period:_____

You and your partner are to carefully study your mystery topographic map. Note geographical features, both natural and cultural. Using clues on the map and all resources available to you, decide the exact location of your map.

1. Research the area and write a report that includes all of the following information within the five themes of geography.

Location

1. Latitude and longitude of your map
2. A state map of your area with your quadrangle correctly located within the degrees of latitude and longitude
3. Relative location of your map, including the nearest city (with population >50,000), rivers, major highways, national forests or parks, and other features
4. Elevation of area with an elevation profile of your topographic map

Place

1. Annual precipitation with a graph of monthly increments
2. Average high and low temperatures for winter and summer, with a graph showing seasonal temperatures
3. Special features of your area, including photos and/or postcards

Human/environmental interactions

1. Primary use of land in the area
2. Primary businesses, industries, and other employment opportunities
3. Recreational opportunities

Movement

1. Major airport serving the closest city
2. Colleges or universities within closest major city
3. Major exports of area

Region

1. Vegetation region
2. Cultural region
3. Closest professional sports team

2. Plan a vacation trip from your home to your mystery location, including mode of travel, cost of trip (based on mode of travel), time of year for which the trip is planned, sites to

visit, packing information (based upon climate and season of year for which the trip is planned), and activities one might enjoy at your location. The length of the trip is to be 1-2 weeks and should fit within a budget of \$2,000 - \$3,000.

3. Present your information in a neat and careful manner. Your report should show imagination, be attractively presented with a cover, and include pictures. The length should be at least two type-written pages with a map, three graphs, and additional photos, postcards, or other graphics.

Topo Travel Agent--Student Checklist

Members of the group: _____

Mystery map number: _____ Period: _____

The following information is required. Use the list as a checklist for your group.

- _____ 1. State in which your map is located
- _____ 2. Latitude and longitude
- _____ 3. The exact location of your map within the state. Use a state map with your quadrangle map correctly placed within the degree of latitude and longitude.
- _____ 4. Name of closest large city, population and date of census, annual precipitation, graph of precipitation in monthly increments
- _____ 5. Average high and low temperatures of winter and summer for your area, with a graph of the seasonal averages
- _____ 6. Recreational opportunities for your area
- _____ 7. Primary businesses, industries, other employment opportunities
- _____ 8. Colleges and/or universities within the closest major city
- _____ 9. Closest professional sports team and major airport serving the closest city
- _____ 10. Postcards, posters, or other photos of your area, showing special features
- _____ 11. Primary use of land in the area, exports, vegetative region, cultural region
- _____ 12. Graph showing the changes in elevation in your location

- _____ 13. Plans for a trip from your home to your mystery location, to include mode of travel, cost of trip, time of year for which the trip is planned, sites to visit, packing advice, accommodations, and activities one might enjoy at your location.

Extra credit will be given for the following:

1. Street map of the closest city
2. Promotional items featuring your area--T-shirt, key chain, stickers, pin, etc.
3. Samples of products made in your area--food, manufactured items (the item must state that it is produced in your area)
4. State license plate (the real item, not a picture off the Internet!)

HUMAN SYSTEMS

Border Disputes: Trespassing, Trouble and Territoriality

Presented By Sari Bennett

Overview:

This lesson focuses on the cultural influences and people's perception of places and regions.

Grade Level:

Grades 6-12

Time Needed:

Three 45-minute sessions

National Geography Standards:

- 6. Culture and experience influence perception of places and regions
- 10. The nature and complexity of Earth's cultural mosaics
- 13. Forces of cooperation and conflict that shape Earth's surface
- 18. How to apply geography to interpret the present and plan for the future

Connections to the Curriculum:

Social Studies, Language Arts

Objectives:

- 1. Students will identify the type of boundary dispute for each case study and provide reason(s) for their decision.
- 2. Students will assess the impact of border disputes on the surrounding region.
- 3. Students will create a case study describing a border dispute in their "area."

Materials:

One atlas for each of 6-8 groups
Chalk, string or ribbon for dividing the classroom into areas

Overhead projector

Transparencies or worksheets of "Types of Border Disputes" and "Border Disputes--Case Studies"

Transparencies or worksheet of "Mexico and the United States"

Procedures:

1. Use string, chalk, or ribbon to divide the classroom into six or eight unequal areas or regions. Inform students that these lines, or barriers, extend from floor to ceiling and may not be crossed for any reason. Ask students in each area to brainstorm a list of problems and benefits that would result from these barriers. Discuss the items on each list, accepting any reasonable response (e.g., problems--not being able to get out of the room or speak to their friends; benefits--not having to deal with other people in the class or being able to work with the same people all the time).
2. Ask students what would happen if they were allowed to negotiate with the group(s) that bordered their area regarding movement of the line itself or movement of people, goods, and ideas over that line? What would be their major concerns in negotiating such agreement? Accept all reasonable response (e.g., concerns might include the size of their space, the ability to leave the room, talking to their friends, etc.).
3. Ask students what might happen if agreement between areas touching the same border could not be reached? Accept all reasonable responses (e.g., permission of other groups, etc.).

Evaluation:

1. Did students create a case study that:
 - a. described the cause(s) of the dispute between areas
 - b. described the events keeping the dispute alive
 - c. stated the goals of each area involved in the dispute
 - d. explained the impact on other "areas"
2. Were students able to work cooperatively with other students in their area to complete the assignment?
3. Were students able to participate in the discussion requiring them to decide the type of boundary dispute described in the case studies of other "areas"?

Extensions:

1. Two-fifths of the globe's surface is land, and this land is divided into over 150 sovereign political units. It is not surprising that the boundary lines separating them should occasionally be the focus of some kind of dispute between neighbors (Bennett, 90). Boundary lines are three-dimensional. They extend to the top of the atmosphere and to the center of the earth. Worldwide, there are at least 100 officially recognized boundary disputes at any given time, and nasty new ones arise regularly. A map of political boundaries can reveal ancient and ongoing disputes in all parts of the world (Demko, 63).
2. The basic function of boundaries is that of a barrier to movement--the circulation of

- people, goods, and ideas. One can consider barriers more as filters or screens having different effects on the quality of movement allowed through. Disputes at shared boundaries, or borders, continue to complicate international life and to add a further threat to peace among nations (Bennett, 92-93).
3. The study of boundary disputes forms a basis for thoughtfully applying the geographic themes within real world contexts. It provides students with an opportunity to increase understanding of geographic facts and relationships involved in border disputes, and to analyze the implications--geographic, historic, political, and economic--resulting from each dispute.
 4. Widen the discussion to consideration of states and/or countries and the "lines," boundaries, or borders between them. Discuss the possible reasons for disputes among states/countries sharing a common border. Again, accept all reasonable responses. Use a transparency or duplicated worksheet of the attached "Types of Border Disputes" to assist students in identifying the four major categories. Ask students to give examples of any disputes they know that would fit into any of the categories. Match reasons for border disputes discussed by students with the four types.
 5. Use a transparency or duplicated worksheet of one or more of the attached "Border Disputes--Case Studies." Have students work in their designated "areas" to decide the type of border dispute related to each case study, and to explain their decision.
 6. Depending on the worksheet(s) used, distribute an atlas or a political/physical map of the world or United States to students in each "area." Have students determine the location of the countries/states/places involved in the dispute and predict the effects of the dispute on other countries or states in the region.
 7. As a group, have the class discuss the results of their investigation. There may be differences of opinion among groups regarding the types of disputes. It is sometimes difficult to distinguish between disputes over areas and disputes over resources. Attention must be given to the explanations, which should be based on the information in the case studies, as well as student's prior knowledge. Also, many disputes cannot be simply categorized. This is one reason disputes may be difficult to settle.
 8. Each "area" in the classroom must work with one bordering area to create a realistic scenario for a border dispute between them. They may name their areas, but must use the following prompt to complete the assignment.
 9. Write a case study for border dispute between your area and one that shares a boundary with you. Work with the students in the border area to create and describe the cause(s) of the dispute, the actual happening of series of events that keep the dispute alive, the goals of each "area" involved in the dispute, and the possible effects on other "areas" in the classroom. **DO NOT IDENTIFY THE TYPE OF DISPUTE.**
 10. When "areas" of students have completed their assignments, have them share their case studies with the rest of the class. Other "areas" should use the information to decide the type of each border dispute, and to explain the reason(s) for their decision.
 11. Have students review their textbook to examine and analyze other border disputes that have arisen during the history of the nation or the world (German/French dispute over Alsace Lorriane, building of the Great Wall of China to keep out enemy forces, etc.). Have them decide the type of dispute and explain the reason(s) for their

decision.

12. Discuss possible future border disputes over "uncommon space" in Antarctica, under the seas and oceans, and in outer space--the universe beyond Earth's atmosphere.
13. Have students go to the media center and use the Reader's Guide to Periodical Literature to find an article with updated information on any of the disputes on the worksheets, or find an article related to a different border dispute to analyze using the types learned.

Resources:

1. Bennett, D. Gordon (1982). Tension Areas of the World. Delray Beach, FL: Park Press.
2. Davidson, James and Bachelor, John (1986). The American Nation. Englewood Cliffs, NJ: Prentice Hall, Inc.
3. Demko, George J. (1992). Why in The World. New York: Anchor Books.
4. Hoepfli, Nancy L., ed. (1992). Great Decisions. New York: Foreign Policy Association.
5. Patrick, John and Berkin, Carol (1986). History of the American Nation. New York: Macmillan Publishing Co.

Types of Border Disputes

1. **Territorial disputes** include conflicts between states or countries over the ownership of a given area. There may be different reasons why one state or country would make a claim against a neighbor. For example, a nation may want to increase its power or shift attention from other problems within the country. Its leaders may feel that they have a "right" to the land claimed based on history, ethnic groups, or geography.
2. **Positional disputes** include conflicts over the interpretation of documents defining a boundary or the way it is shown on the ground. This situation frequently arises when two states or nations share a boundary that was drawn up when accuracy was less important than reducing tension. As population increases and resources are discovered, the placement of the boundary becomes more important.
3. **Functional disputes** include conflicts over national policies applied at a border. These could be immigration and customs regulations, or land use and location policies between neighbors. Serious disputes at the local or regional level can also develop.
4. **Resource disputes** include conflicts over the use of resources created or complicated by a political boundary. The most common examples occur where rivers are used as boundaries or where a border separates a river basin between upstream and downstream control.

Border Disputes--Case Studies

Directions: Read each of the case studies below. Decide the type of border dispute related to each and explain your choice.

The Spratleys, island reefs in the South China Sea, have underwater petroleum and natural gas reserves. Five countries--the Philippines, Malaysia, Vietnam, the People's Republic of China, and Taiwan--claim them. Free navigation through straits in the area is important to global shipment of cargo. Disputes could place the straits of Malacca and Singapore, shortcuts between the Indian Ocean and the South China Sea, in the middle of the dispute.

Type_____

Reason(s)_____

The border between North and South Korea has separated 10 million families since their civil war ended in 1953. They were not allowed to make telephone calls or send letters to relatives in the "other" Korea. Beginning in 1990, travel between the two was permitted, but only for a few days.

Type_____

Reason(s)_____

Pakistan has a long-standing border dispute with India over the land known as Kashmir. Whereas people of Hindu faith govern India, Pakistan is a Muslim country. Kashmir is also a Muslim land.

Type_____

Reason(s)_____

The Somali Republic is involved in active disputes over the borders with all three of its neighbors--Kenya, Ethiopia, and Djibouti. Ethnic Somali tribes live in the border of three nations Somali wants to extend its border to include all areas occupied by its tribes.

Type_____

Reason(s)_____

Ireland is divided into two parts, the larger Republic of Ireland in the south, and the smaller Northern Ireland. Protestants and Catholics in Northern Ireland have been fighting for more than two decades. Catholics are determined to cut the Protestant's ties to Great Britain and reunite Northern Ireland with the rest of the Republic.

Type_____

Reason(s)_____

Border Disputes--Case Studies

Directions: Read each of the case studies below. Decide the type of border dispute related to each and explain your choice.

In the 1980's, South Africa erected an electrified fence along sections of its border with Zimbabwe. They topped it with coils of razor-sharp wire to keep men from crossing over in search of work or trouble.

Type_____

Reason(s)_____

For years, the friendly relationship between Canada and the United States has been strained by a disagreement over the Northwest Passage. Canada claims that the waters of the Northwest Passage are internal Canadian waters and subject to its exclusive control. The United States does not argue Canada's claim to the islands bordering the Passage, but insists that the passage itself is international water open to all countries.

Type_____

Reason(s)_____

There was a dispute for years between the former Soviet Union and Norway over the Svalbard Islands in the Arctic Ocean. A treaty allows the islands to remain under Norwegian control, but 41 nations that signed the treaty now share equal rights to mine coal there.

Type_____

Reason(s)_____

The states of Ohio and Kentucky have argued for decades over a stretch of the Ohio River, much of it involving fishermen, the licensing of boats, and taxes from the sale of boats.

Type_____

Reason(s)_____

The former Soviet union and Japan never signed a treaty at the end of World War II. They are still engaged in a bitter dispute over several islands north of Japan that were taken by the USSR at the end of the war. Giving up the islands, known in Japan as the "Northern Territories," could limit the former Soviet Union's pass to the open seas.

Type_____

Reason(s)_____

Border Disputes--Case Studies

Directions: Read each of the case studies below. Decide the type of border dispute related to each and explain your choice.

The Ohio River Valley was a region of thick forests and winding rivers claimed by both the French and British. In the early 1700's, French trappers roamed freely in search of mink, otter, and beaver. By the 1740's, British trappers and farmers from East Coast colonies began moving there. Disputes over control of the region led to the French and Indian War.

Type_____

Reason(s)_____

Pontiac's War convinced the British they must stop settlers from moving onto Indian lands. The Proclamation of 1763 drew a line along the Appalachian Mountains and forbade colonists to settle west of it. The proclamation was meant to protect Indian peoples, but settlers ignored it and moved anyway.

Type_____

Reason(s)_____

In 1818, the United States and Britain agreed to occupy Oregon jointly. By 1844, Americans began to feel that Oregon should belong to the United States alone. James K. Polk ran for president using the slogan "Fifty-four forty or fight," meaning that all of Oregon, to the southern border of Alaska, ought to be American. In 1846, a compromise established the 49th parallel as the Oregon border.

Type_____

Reason(s)_____

In 1845, Congress admitted Texas as a state and a dispute with Mexico began almost immediately over its southern border. The United States said it was the Rio Grande River and Mexico said it was the Nueces River. After the Mexican War, Mexico accepted the Rio Grand River as the southern border of Texas.

Type_____

Reason(s)_____

Indian peoples lived on the Great Plains for hundreds of years, depending on the buffalo to supply their basic needs. After the Civil War, new roads, towns, and railroads helped destroy the Indian ways of life. Treaties gave Indians rights to their lands, but fighting broke out. By 1891, the Indian wars had ended and most tribes were on reservations.

Type _____
Reason(s) _____

Montana: The Last Best Place

Presented by Tami Hauge

Overview:

Use the five themes in writing a pattern poem about Montana.

Grade Level:

All grades with emphasis in K-6

Time:

45 minutes

National Geography Standards:

- 4. Physical and human characteristics of place
- 12. Human settlement

Connections to the Curriculum:

Language Arts, Social Studies

Objectives:

- 1. To write an original poem describing Montana keeping the five themes of geography in mind.

Materials:

5 large sheets of butcher paper
markers
poem shape outline pages
Montana information
picture books

Procedures:

- 1. Introduce the lesson
- 2. Brainstorm describing words in five different categories
- 3. Distribute poem shape outline pages
- 4. Write original poems
- 5. Celebrate poems by sharing

Evaluation:

1. Did the student follow the pattern?
2. Did the student create an original poem?

Extensions:

Use Region booklets to write poems describing regions of Montana

Template for Poem

Title

Adjective

Adjective

Adjective

As beautiful as

As big as

As adventurous as

Feeling

Feeling

Feeling

Title

Places Everyone

Presented by Patricia Bischoff

Overview:

Students will develop the geography theme "location" through a hands-on activity using latitude and longitude.

Grade Level:

Grade 4

Time Needed:

30 minutes each day for a week.

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective.
3. Spatial organization of Earth
9. Human Populations
12. Human Settlement

Connections to Curriculum:

Math, Language Arts, Writing

Objectives:

1. Students will practice finding places in the atlas using the absolute location skills associated with longitude and latitude.
2. Students will find a city on a floor grid using their knowledge of latitude and longitude.

Materials:

Flat Stanley by Jeff Brown

Location cards

Atlases

Two rolls of adding machine tape

Construction paper, yarn, etc. to create doll of Stanley

Procedures:

1. Introduce absolute location
2. Introduce the book, Flat Stanley, by Jeff Brown and make a paper doll of Stanley.
3. Choose a city to send your Stanley to and discuss and write a journal with entries describing Stanley's adventures in each city.
4. Find specific absolute locations in an atlas.
5. Work in small groups to lay out a grid and pinpoint specific locations on the grid
6. Lay out strips of adding machine tape for latitude and longitude lines.
7. Plot your "Stanley card" on the map (where each group's/person's Stanley was sent).

Evaluation:

Thoroughness of journal

Clarity and conciseness of latitude/longitude lines and grid locations

Extensions:

1. Mail Stanley and journal to a city that student chooses. Have pen pals fill out the journal about Stanley's adventures.
2. Famous places, structures, events, or land forms can be plotted on the latitude and longitude grid. Each student will have a place card with information about a specific place, structure, event or land form and an atlas. They must determine in what city or area of the world this place is located, find it in the atlas. Next students write down the absolute location or longitude and latitude. When all students have located their place, go to the grid, plot the location.

3. Arrange students' desks in rows. Label front row desks and left row desks with latitude and longitude numbers. As students come into the room from recess, give them a paper with an absolute location. They must go sit in the chair at the proper location.

Resources:

Book-- Flat Stanley by Jeff Brown
Maps
Post Office
Chamber of Commerce

Atlases
Globes
Telephone Book

Ups and Downs - People and Places

Presented by
Judy Evans and Sharon McDermott

Overview:

This lesson is a comparative analysis of elevations and population density using a cross section of the United States from east to west. The students will build cracker models of both population density and elevation and then draw a generalization of the relationship between elevation and population.

Grade Level:

Grades 1-6 with adaptation possible for grades 7-12

Time Needed:

One hour

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
9. Human populations

Connections to the Curriculum:

Geography/Social Studies and Mathematics

Objectives:

1. The students will build a three dimensional graph of the relative elevations of an east-west cross section of the United States.
2. The students will build a three dimensional graph of the relative population densities of an east-west cross section of the United States.
3. The students will visualize the relationship between elevation and population in the United States.

Materials:

Physical map of the United States

Population map of the United States
Ups and Downs base sheet for each student (or group)
Square crackers (Approximately 1" square)
Peanut butter

Procedures:

1. A physical relief map of the United States is displayed. Mark a line to signify an air route from San Francisco to New York City.
2. Students are asked if they have ever taken a flight over any part of that route in the day-time. Specific observations they recall can be listed on the board. If necessary, a brief description of what might be observed on a daytime flight on that route could be read.
3. Students are asked to imagine breaking the map along the piece of tape. A moment is taken to develop or reinforce the idea of looking at a relief map on edge as a profile or cross-section.
4. Students are asked to think about the largest landforms crossed on the flight. Landforms should be listed on the board as students recite them. The list usually includes: Pacific Coast, Sierra Nevada, Great Basin, Rocky Mountains, Great Plains, Mississippi River Valley/Great Lakes, Appalachian Mountains, and Atlantic Coastal Plain.
5. Students are going to use the crackers, peanut butter, and base sheet to build a profile of the United States on the base sheet. They will begin by setting eight crackers on the base sheet's eight squares labeled "ELEVATION" to represent sea level. The shortest stack representing the lowest elevation will then be two crackers (including the base cracker) the highest stack will be nine crackers. Students are referred to the physical map of the United States for information.
6. Students then use a population density map to build a profile of the population of the United States in the other row of the base sheet labeled "POPULATION DENSITY." They will again use the same process of representing the ranking of population density with crackers and peanut butter with the lowest level having the base cracker and one cracker with the peanut butter sandwiched as glue.
7. Conduct a concluding discussion to focus the student's discovering the generally inverse relationship between elevation and population density.

Evaluation:

The student will verbally explain the inverse relationship of population density and elevation using the graph as a prompt. The students will enter information about this relationship into their social studies journal.

Extensions:

Use one cracker to equal 500 feet of elevation for each of the regions.

Resources:

World Geography, American Book Co. pp. 110-111, 132-133.

BASE SHEET FOR UPS AND DOWNS							
ELEVATION							
PACIFIC COAST	SIERRA NEVADA	GREAT BASIN	ROCKY MOUNTAINS	GREAT PLAINS	MISS. RIVER GREAT LAKES	APPALACHIAN MOUNTAINS	ATLANTIC COASTAL PLAIN
POPULATION DENSITY							

The World in Your Closet

Presented by Mary Jo Segaar-VandenBos

Overview:

Students will become more aware of how world trade is a big part of their own lives as consumers. The themes of location and movement can be clearly seen in this lesson.

Grade Level:

Grades 5 - 8

Time Needed:

Two class periods; homework time is also required

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
2. Mental maps and spatial context
11. Patterns and networks of economic interdependence
17. How to apply geography to interpret the past
18. How to apply geography to interpret the present and plan for the future

Connections to the Curriculum:

Social Studies, Math

Objectives:

1. Students will complete a homework research assignment to identify and list many of the imported products (apparel) they personally possess.
2. Students will identify on a world map nations that supply them with imported products that they wear.

3. Students will organize and categorize collected information to identify nations that have specialized and nations that have diversified in the number of products they import to consumers in the United States.
4. Students will categorize national producers by continents.
5. Students will interpret the data they have collected and draw conclusions.
6. Students will recognize the possible methods of movement and transportation involved in moving products from the import nation to the student consumer in the United States.

Materials:

Outline copies of a world map. Colored pencils or fine point markers
 World atlases
 Handouts/charts

Procedures:

1. Preface the lesson with a short review of the following terms: consumers, producers, imports, exports, interdependence, and five themes of geography.
2. Using articles of their own clothing and footwear, have students make lists of all the nations in the world found in their closets and drawers at home. Discuss with students any surprises they found on their list of imports.
3. Using atlases and outline maps of the world, have students locate where in the world the items on their lists were manufactured and place an **X** or a dot on these countries. Students should color-code their marks. For example, all the locations for shirts might be marked in blue. Instruct students to make keys on their maps to explain these colored symbols. Have students look for patterns on their maps. For example, is there a region of the world from which we import more? Do certain articles of clothing seem to be imported from specific regions of the world?
4. Next have students make a chart with columns for the seven continents. Each nation should be listed under the correct continent heading. (This information could also be compiled into a class chart.) Discuss the findings. What continent has the most import nations listed? Which one has the least? How can this be explained? What conclusions can be drawn from this information?
5. Then have students categorize the nations according to what clothing or footwear they produced. Place the names of the nations in columns labeled shirts and tops; pants, shorts, and skirts; footwear; dresses; suits and formal wear; sweatshirts and sweaters. Discuss student observations. Do some countries seem to be more specialized in what they produce while others are more diversified? Why this might be so?
6. Divide students into groups of four (assign roles: recorder, reporter, materials manager, time keeper). Have each group choose an imported item (or assign them one and brainstorm all the possible methods of transportation that may have been involved in moving the imported item from the nation of origin to the closet it now occupies. List step-by-step its travels and include foreign and United States ports and specific places it may have passed through. Groups could compile this information on a large chart or on a transparency of a world outline map and then share with the class.

Extensions:

1. Students could focus their homework research on other products they possess.
2. Students could write an essay under the heading: "One nation's imports are another nation's exports." (The theme of interdependence could be explored.)
3. Students could research the controversy over working conditions of factories in various countries and present their findings to the class.
4. Students could interview parents and grandparents regarding their perceptions of imported products when they were young. For example, what was the quality or perceived quality of objects "made in Taiwan"? How have these perceptions changed? What has caused these changes in perceptions?

Directions for Homework page**The World in Your Closet**

Using the labels in articles of your own clothing and footwear, make a list of all the nations in the world that are found in your closet and drawers at home. Using the chart below, list the article of clothing or footwear and the nation where it was produced.

Article of clothing/Footwear**Nation Producer**

ENVIRONMENT and SOCIETY

Antarctica: Environmental Health vs. Worldly Exploitation

Presented By: Therese Van Reenen

Overview:

This lesson focuses on the environmental issues facing Antarctica and the economic issues facing nations.

Many countries have scientific claims to Antarctica. Does this also mean the countries have claim to resources from Antarctica and can use it to dispose of their wastes?

This lesson will look at how humans cooperate, yet face conflicts over Earth's resources. It will also address the issue of how societies value and use the Earth's resources.

Grade Level:

Grades 6-12

Time Needed:

Three 45-minute sessions

National Geography Standards:

- 8. Characteristics and distribution of Earth's ecosystems
- 11. Patterns and networks of economic interdependence
- 13. Forces of cooperation and conflict that shape Earth's surface
- 16. Meaning, distribution, and importance of resources

Connections to the Curriculum:

Social Studies, Language Arts

Objectives:

1. Students will be able to understand the relationships between humans and their environment.
2. Students will be able to identify major issues facing the use and control of Antarctica.
3. Students will be able to argue for or against a specific position on an issue dealing with the use and control of Antarctica.
4. Students will be able to write a new Antarctic Treaty that all participating nations will ratify.

Materials:

Gather background resources on Antarctica, its environment and relationship with nations of the world.

Maps of Antarctica with different information and perspectives.

A video on Antarctica

A world map

Reference materials that support a knowledge base for the Antarctic Treaty

Delegate information cards

Copies of the present Antarctic Treaty and an overhead

Copies of the new issues under consideration for the revision of the Antarctic Treaty

Overhead projector

Procedures:

1. This simulation should be a part of a unit of study (on Antarctica, the environment, negotiation procedures, etc.). This activity should be done after students have had some background and individual time to research on that area of study. This simulation can take as much time as you wish over a course of several days, or as little as an hour. Its design is flexible to time and depth and can be tailored to the needs of the unit of study and level of the students.
2. Begin by informing the students that they are going to take part in a simulation dealing with the Antarctic Treaty. They are going to be delegates from different nations who are meeting to revise the treaty that was ratified on June 23, 1961.
3. Divide the class into seven groups with each group representing a nation or group of nations (see attached The Roles of The Delegates). Hand each group a copy of the Major Provisions of the 1961 Antarctic Treaty. Display the overhead copy and carefully go over it.
4. Assign each group a nation or group of nations they will represent in this simulation. Later they will present and support their request in the revised treaty. Give each group their card describing THE ROLE OF THE DELEGATES. Ask them to read this in their group.
5. Hand out one complete copy of NEW ISSUES UNDER CONSIDERATION FOR ANTARCTIC REVISION to each group. Then give each group an envelope that contains strips with one issue on each strip. Ask each delegate to take a strip from the envelope (some students may have more than one issue) and share their issue with the rest of their delegates.
6. Instruct each group to discuss the issues, their national concerns and the provisions from the treaty. They need to come to a consensus about their position as nation on

- each issue. They may want to do some more research if time permits. They will need to be prepared to share their views with the other nations. You might want to allow representatives from each nation to meet with each other to negotiate certain issues of common interest.
7. Call all nations back together. Call on one nation at a time to share their concerns, positions on issues, reasons for their position, and any other important points that their nation feels the other nations should consider as a provision in the new treaty. After each group has presented their positions you can open it up for questions between the nations. Remind the students that their task is to come up with a new treaty that all participating nations will ratify.
 8. After this dialogue have the delegates begin the writing of the new treaty. Go over the provisions that already exist in the treaty to find out which ones the delegates agree need to be kept in the new treaty. Then ask each nation to share one issue that they feel is important to be included in the new treaty. Ask the nations to vote for or against its inclusion. Continue until each nation has contributed to the new treaty.
 9. Publish the new Antarctic Treaty and have all delegates sign it. Debrief the treaty and the creative process.

Evaluation:

Students will identify relationship between humans and the environment in positive and negative ways and major issues facing the use and control of the Antarctic in their classroom presentations.

Resources:

1. Background Information Sheet
2. Antarctic Treaty (1961)
3. The Roles of the Delegates
4. New Issues Under Consideration For Antarctic Treaty Revision

Background Information Sheet

The Antarctic Treaty was ratified on June 23, 1961 by Argentina, Australia, Chile, France, New Zealand, Norway, the United Kingdom, Belgium, Japan, South Africa, Russia, and the United States, Brazil, China, India, Poland, Uruguay, Italy, and Germany. The treaty specifically states that Antarctica can be used for peaceful purposes only and supports the freedom of scientific investigation and cooperation. All territorial claims were put on hold until a 1991 review of the treaty. In 1988, there was an agreement to regulate future exploitation of Antarctica, but it was highly criticized by environmentalist and developing nations. Australia and France refused to sign the agreement, so the agreement fell apart in 1989.

Antarctic Treaty (1961)

1. Antarctica shall be used only for peaceful purposes.
2. Freedom of scientific investigation and cooperation shall be allowed.
3. The treaty countries shall exchange plans, scientific results, and personnel whenever possible.
4. Land claims made before the treaty need not be renounced, but new claims are not allowed.
5. There shall be no nuclear explosions or nuclear waste disposal in Antarctica.
6. The treaty applies to all areas south of latitude 60 degrees south, except the sea.
7. Treaty nations may inspect any other nations' Antarctic operation.
8. If disputes cannot be resolved by the parties involved, they shall be referred to the International Court of Justice.
9. Parties to the treaty may send delegates to meetings which will be called as needed to make new regulations which further the objectives of the treaty. (Such meetings have in the past resulted in the protection of Antarctic plants and animals, and the preservation of certain historic sites.)

The Roles of the Delegates

United States of America --You have more scientific personnel and stations in Antarctica than any other nation. Your scientific investment in the continent, therefore, is great. American oil companies are also very interested in developing Antarctic supplies, if the technology is economical. You are confident that the U.S. developers have enough financing and technological expertise to make a profitable success of any resource development. You also know that people from the U.S. Energy Resources and Development Administration are showing some interest in burying nuclear waste in Antarctica.

Soviet Union--You maintain important scientific bases in Antarctica and you, like the United States value the chance you have there to exchange scientific information and good will with the countries. You are also very eager to harvest krill. Your technology and financial resources would also make development in Antarctica fairly easy.

Japan--You have a scientific base in Antarctica but are most interested in benefiting from resources there. Your people need to import food and energy. Therefore you want to get at the krill, and you support oil development so long as Japan is guaranteed favorable prices. You also favor nuclear power stations where other energy is too expensive.

Poland, Romania--You are not rich countries and you like the idea of developing Antarctic resources, especially the krill. A group of Polish ships, including a factory ship, is now in the southern ocean taking krill.

Bulgaria and Ukraine--You are all countries with a rich sea going heritage, and your people like to eat fish. You would like to see maintained the sites your explorers first found. Argentina, Australia, Brazil, Chile, New Zealand, South Africa--You are neighbors of Antarctica, and therefore especially concerned about security there. You want no threat of war or other danger. At the same time you feel you have a special interest in Antarctica's fate. Argentina, Australia, and Chile are especially concerned about territorial claims because of fishing rights. You would also like to benefit from the other resource development, but may have a hard time if you alone must invest the financial resources.

France, Norway, United Kingdom, New Zealand--All of you (along with Argentina, Australia and Chile) have scientific claim to Antarctica. You highly support the treaty's goals of scientific work and ecological preservation. You want to be sure that no treaty agreements, however, override your claims in Antarctica. You feel you have a "special" consideration due to your claims in Antarctica.

New Issues Under Consideration For Antarctic Treaty Revision

The following issues have become vital for Antarctica, yet are not dealt with under the treaty of 1961. What is the position of your nation on each issue? Be prepared to present your position and support for that position.

1. **FOOD FROM THE SEA.** The ocean around Antarctica contains a wide variety of fish. There may be edible fish even under the Antarctic ice-shelf. The most important food source in the area is krill--a little shellfish that resembles shrimp. Krill form large, thick swarms in the sea. They feed on algae and other sea plants. Japan, the Soviet Union, and Poland have been harvesting krill in a big way. Cost of unregulated krill catching may be great, because of the complex interactions among seals, whales, sea birds, penguins, and fish--all competing for food. Unwise exploitation of krill could cause disastrous changes throughout the ecosystem. How can it be determined how much krill can be caught and by whom? Why should preservation of the Antarctic ecosystem be considered? The treaty regulates all fishing. What needs to be considered in the regulations and should there be any fishing?
2. **TOURISM.** A new problem for the continent is the increase of tourists. People are eager to see the continent, to visit historical sites, and stand at the South Pole. Now there aren't enough safety provisions to handle large numbers of people. Scientists fear the tourists may pollute the area and disturb delicate natural systems that the scientists themselves don't yet fully understand. How should tourism be regulated? At this time, no passport or visa is needed.
3. **GOVERNANCE.** The old treaty states that the nations govern the continent through a group of delegates. Originally there were 12 nations; now there are 42 who have participated in the treaty conferences. However, there are only 26 that make up the

- decision-making body. Those are the nations that have scientific activities in Antarctica. They reach decisions by consensus and not a vote. Should this format continue?
4. **WEATHER RELATED ACTIVITIES AND PHENOMENON.** In few places on earth can research be carried out with so much hardship. Yet Antarctica yields a wealth of subject matter. The insect, plant, animal, bird, and weather research can be studied as long as they are undisturbed by noise, pollution, and disruption. Is this a valid reason to limit the population of the region?
 5. **PRESERVING THE ANTARCTIC SPIRIT.** Historically, Antarctica has been a place where humans have faced enormous challenges and have met them in a spirit of cooperation. The great new challenges are now scientific. Daring expeditions to conquer the continent have created heroes. Man's will to survive has been tested to the limit. How can the "spirit" of this continent be saved?
 6. **SCIENTIFIC RESEARCH AND ECOLOGICAL CONCERNS.** These two issues are not in competition with each other but seem to have equal value. How can both issues be handled so that they support one another?

The Changing Face of Place

Presented by Sharon McDermott

Overview:

This lesson provides students with an opportunity to identify and describe a physical location (PLACE) and then illustrate and order changes that occurred over a period of time in that place as a result of human/environment interaction. This lesson helps students develop a spatial and ecological perspective of constant CHANGE.

Grade:

Grades K-5

Time:

40-60 minutes

National Geography Standards:

12. Human Settlement
14. Human actions modify physical environment
15. Physical systems affect human systems
17. How to apply geography to interpret the past

Connection to the Curriculum:

Social Studies, Language Arts, Creative Art

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Objectives:

1. Through the use of literature, the students will identify and describe a physical location.
2. Students will order and compare changes in a place caused by human/environment interaction over a period of time.
3. Students will reconstruct an example of change in a place over a period of time caused by human/environment interaction.

Materials:

Picture book or other literature selection showing how a place has changed over time
8 " x 11" pieces of paper with directions to form a triarama
Pencils, crayons or colored pencils
Scissors

Procedures:

1. Guide students in thinking of a community place that has dramatically changed in their lifetime. Determine whether the change was caused by nature or man. Have students think of another example and describe it in a similar way to a partner.
2. Read aloud to the class a piece of literature that reflects the way a place has changed over time. (More mature students may be grouped by threes to read their own books.) Sample titles for different grades and focuses are listed under resources at the end of the lesson.
3. After reading the story, students describe to a partner (or quick write) the physical characteristics of the place within the story.
4. Students then discuss and record the major human/environment changes that take place during the story.
5. Form cooperative groups and within the groups each participant will select a different segment of time in the story to depict in a triarama (directions attached).
6. Participants in each group share materials to create their scenes.
7. After a 10-20 minute work time, students will sequence and attach 2, 3, or 4 triaramas, depending on cooperative group size.
8. Participants will display and compare triarama structures, telling reasons for their choices of scenes.

Evaluation:

Each student will be able to give three examples of how a place has changed over a period of time because of human/environment interactions.

Extensions:

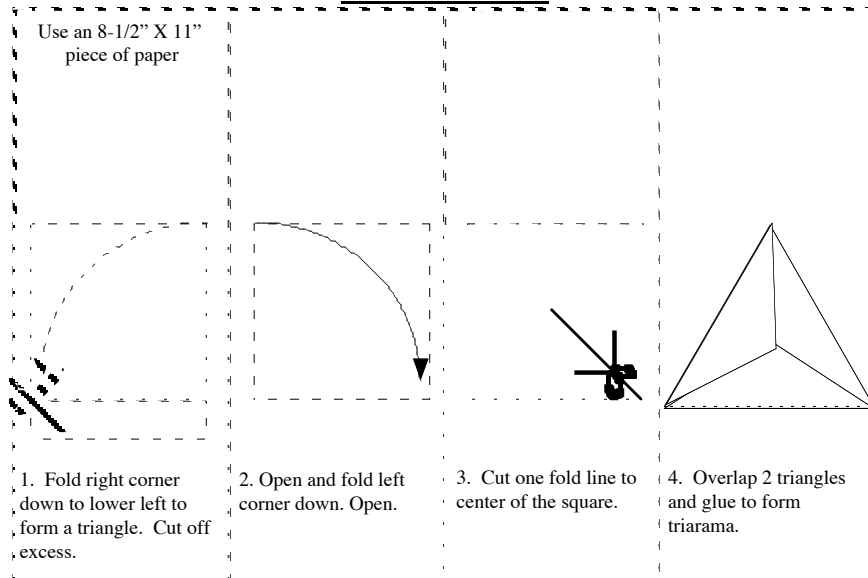
1. Discuss anthropologist's study of man's environmental, cultural, and social relations. Use a sand tray, paintbrush, and broken dishes (from a thrift shop) to simulate an archeological dig.
2. Participants create their own fictional or real historical literature/picture book to show the development of the area for their home or town, or for an area being studied.

3. Discuss the implications of human /environment interaction and create posters to advertise solutions for display around the classroom or school.
4. Post dates/seasons for use to match pictures from book (xerox copies or cut apart a paperback copy of book).

Resources:

Anno's Counting Book - Mitsumasa Anno
Antarctica - Helen Cowcher
Farewell to Manzanar - Jeannie Huston
From Path to Highway - Gail Gibbons
Heron Street - Ann Warren
The House on Baxter Street - Sabin Gray (HBJ)
The House on Maple Street - Bonnie Pryor
The Little House - Virginia Lee Burton
The Lorax - Dr. Seuss
New Providence - Van Tscherner and Fleming
Shaker Lane - Alice and Martin Provensen
The Way It Was - Annie R. Mitchell
Window - Jeannie Baker

TRIARAMA



Fruit Salad

Presented by Lisa Cooper

Overview:

In this lesson students will use reference materials to find the five themes relating to common fruits in the United States. Students will then locate the leading state producer

of their fruit on the United States map and the country their fruit originated from on the world map.

Grade level:

Middle School but can be adapted to any grade level.

Time:

1 to 3 class periods of 30-40 minutes depending on how involved you want to get

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
16. Meaning, distribution, and importance of resources

Connection to the Curriculum:

Social Studies and Language Arts

Objectives:

1. Students will demonstrate their understanding of the five themes by application and analysis.
2. Students will use reference materials to research their fruit (other products, foods, etc., could be substituted).
3. Students will develop an awareness that many plants and foods originated from other parts of the world.
4. Students will locate and relate fruits with places in the world.

Materials:

Oversized United States and world map
access to reference materials, encyclopedia, social studies textbooks, and/or atlases
scissors, tape, pencil and paper
fruit and knives
bowls and spoons

Procedures

1. The instructor will relate the purpose of the lesson, stressing the meaning of the five themes and how they relate to this activity. A demonstration or shared example of the expected outcome may be helpful depending on the ability level of the students.
2. Divide the class into cooperative groups (groups working on five different fruits would be nice.) Provide each group with materials needed: reference materials, paper and pencils, scissors, and recording sheet. Each group will be given a fruit and directed to find out facts about it.
3. Each group is to work about 15-20 minutes looking up facts about their fruits and relating them to the five themes and recording them.
4. Each group makes pictures of their fruit with the location written on it to be displayed on the maps:
 - a. one showing the lead producing state on the United States map

- b. a second showing the native place of the fruit
 - c. a third one could show the leading world producer of the fruit
5. Each group can cut up their fruit and make a fruit salad to share.

Evaluation

Each group is to present the information on their fruit relating to the five themes.

Names _____

RECORDING SHEET

LOCATION: Cut out two replicas of your fruit and use them as markers on the maps. Write the name of the place, the approximate latitude and longitude, and any other notes that would help you describe the location. The United States map needs leading producers and the world map needs a place of origin.

United States

World

PLACE: Describe the physical characteristics where your fruit grows, i.e., climate, soil, water, landforms, etc.

HUMAN ENVIRONMENTAL INTERACTION: What is being done to the land to get the maximum production of fruit? In your opinion, is this good or bad?

MOVEMENT: Where did your fruit come from and when? How does your fruit get from the plant to the market?

REGION: In what area of the United States does your fruit grow best? What do these places have in common?

Quilted Geoportrait

Presented by Linda Ransford

Overview:

Working in cooperative learning groups, the students will collect information about the community in which they live. The data will be organized into the five themes of geography; location, place, interactions between humans and the environment, movement, and region. Using this information, the groups will design and construct a quilt that represents a geographical picture of their community.

Grade Level:

All grades

Time Needed:

This will depend on the age level.

National Geography Standards:

- 4. Physical and human characteristics of place
- 12. Human settlement
- 16. Meaning, distribution, and importance of resources

Connections to the Curriculum:

Social Studies, Family and Consumer Sciences

Objectives:

- 1. Students will develop an understanding of the five themes of geography.
- 2. Students will research and collect data to learn about their community.
- 3. Students will use their artistic skills and talents to design a final product for the quilt

Materials:

fabric
fabric paints
overheads/projector
sewing machine
thread/pins

Procedure:

- 1. The five themes of geography will be introduced, modeled, and practiced.
- 2. The class will fill in a large chart of the five themes for their community. This activity can be extended for more than one day so that they can consult family and community members.
- 3. In their groups, the students will design their square representing one of the five themes. The students may hand draw or use an overhead to transfer the design onto fabric.
- 4. Using fabric paints, the students will complete their square.
- 5. Together, the class will decide on the trim and backing. The quilt will be sewn together.
- 6. The actual quilting can be done by parents, grandparents, or volunteers.

Evaluation:

The students will be able to name the five themes and identify examples of each.

Extensions:

As an alternate activity, the geoportrait may be done in clay. Each group would etch the representations in a clay tile. The tiles would be fired and glazed. The clay geoportrait can then be mounted on a wall or used as a table top.

The World on a String with a Latin America Flavor!

Presented by Amber Malinak

Overview:

A hands-on activity showing the relationships of imports and exports.

Grade Level:

Intermediate (easily adapted)

Time Needed:

Teacher preparation-15 minutes

Activity-45 minutes

National Geography Standards:

4. Physical and human characteristics of places

16. Meaning, distribution, and importance of resources

Connections to the Curriculum:

Social Studies, geography, economics, and math (money)

Objectives:

1. Students will gain a better understanding of world interconnections.

Materials:

index cards, yarn, list of countries and products

Procedures:

1. Give each student a card with the country name on one side. The exported produce and trading partner is written on the other side.
2. Cards should be mixed up. Have students stand in a circle randomly.
3. Teacher will need to be the moderator and carry the ball of string in order to prevent confusion.

Modification: Older students may toss a ball of yarn from country to country as statements are made.

4. Ask for the country of Venezuela with the product of aluminum to begin. The student will say: **I am the country of Venezuela and I export aluminum to Japan.** Then Japan will proceed with "I am the country..."
5. The string will pass from student to student across the circle as the web is being created.
6. When all the countries have received the string, the teacher will then create shortages;

"Coffee farmers meet to regulate prices, which causes prices to go up. All countries exporting coffee tug slightly on the yarn. OPEC has decided to let less oil into the market. All countries exporting oil tug on the yarn. A hurricane affected trade in the Caribbean. All countries in that area tug on the yarn." After the tugs begin, the students are not to stop tugging. Each time the other countries begin to feel the tug they are to raise their hands and keep them raised. This simulates how we all feel shortages that are created around the world.

7. Students will rewind string if time allows. Discuss the importance of interdependence.

Evaluation

Evaluate students on their discussion about interdependence in the world.

Extensions

1. Study of local or regional exports and imports

Interdependence Simulation Game

PRODUCTS

<u>Country</u>	<u>Product</u>	<u>To</u>
1. Venezuela	Aluminum	Japan
2. Japan	Equipment	Columbia
3. Columbia	Coffee	United States
4. United States	Manufactured goods	Guyana
5. Guyana	Food	Venezuela
6. Venezuela	Oil	Guatemala
7. Guatemala	Bananas	United States
8. United States	Equipment	Venezuela
9. Venezuela	Oil	Honduras
10. Honduras	Bananas	Germany
11. Germany	Machinery	Cuba
12. Cuba	Sugar	Russia
13. Russia	Machinery	Nicaragua
14. Nicaragua	Coffee	Germany
15. Germany	Machinery	Uruguay
16. Uruguay	Beef	Brazil
17. Brazil	Machinery	Paraguay
18. Paraguay	Cotton	Netherlands
19. Netherlands	Machinery	Belize
20. Belize	Sugar	Mexico
21. Mexico	Oil	United States
22. United States	Manufactured goods	Trinidad/Tobago
23. Trinidad/Tobago	Oil	Barbados
24. Barbados	Sugar	United Kingdom
25. United Kingdom	Manufactured goods	St. Lucia
26. St. Lucia	Fruit	Jamaica
27. Jamaica	Bauxite	United States
28. United States	Consumer goods	Bolivia
29. Bolivia	Tin	Argentina
30. Argentina	Meat	Netherlands
31. Netherlands	Food	Germany
32. Germany	Machinery	Peru
33. Peru	Copper	Belgium

USES of GEOGRAPHY

Air Care

Presented by Jann Clouse

Overview:

Sometimes it's "awfully thick out there," as the Missoulian reported in one daily air pollution update. The warm, cleaner air was atop Mt. Sentinel. Down below, a Stage One air alert had been called by health officials. The pool of cold, stagnant air could remain for several days. Students must curtail their activities and remain indoors for recess. "Why?" they ask. Using **AIR CARE**, a hands-on, interdisciplinary unit on air pollution developed by the Missoula City/County Health Department, teachers and students answer the question.

Grade Level:

The unit is designed for grade 5, but could be adapted for levels 3-6.

Time Needed:

A minimum of three 45-minute class periods

National Geography Standards:

- 4. Physical and human characteristics of place
- 18. How to apply geography to interpret the present and plan for the future

Connections to the Curriculum:

Science, Social Studies, Math, Language Arts

Objectives:

1. The students will state two reasons to protect air quality: human health and health of the environment.

2. The students will graph the major sources of Missoula's air pollution.
3. The students will explain how an air inversion happens.
4. The students will examine different points of view regarding cleaning up the air.

Materials:

Air Care kit available from the University of Montana Natural History Center. This kit contains almost all the items needed to teach the lessons with the exception of a few regular school supplies and about two pounds of dry ice.

Slide projector/screen

Overhead projector/overhead sheets and markers

Procedures:

Day One - Slide Show

1. Introduce air quality problems Missoula experiences in winter with slide show depicting how mountains trap air in the valley (relate to location).
2. Locate the city on a relief map. Discuss how Missoula's geography leads to air being trapped in the valley.
3. List several sources of air pollution as described in the slides. Relate to various human activities.
4. Ask students to illustrate one reason why we need to improve air quality by creating an Air Care poster.

Day Two - People Cause Pollution

1. Discuss the two main types of air pollution in Missoula. Relate these sources to human activities.
2. Review the concept of a graph, showing examples. Ask students to name different types of graphs.
3. Divide into groups and graph either particulate or CO sources of air pollution. Graphs should have titles, clear labels, sources cited.
4. Homework: design a project. Choose one source of pollution and design a project the individual could undertake to combat it.

Day Three - Mountain Make Inversions

1. Using diagrams, introduce the reason for inversions in Missoula (e.g., it is a large city completely surrounded by the Rocky Mountains).
2. Demonstrate using a bowl, dry ice, and a night-light how cold, heavy air sits in the valley bottom, and is burned off by the summer sun. Discuss how the angle of the sun's rays and fewer hours of daylight allow air to stay trapped in winter.
3. Discuss how human activities affect the problem; the pollution we cause is trapped in the cold air.
4. Allow students to create a big wind by blowing into their bowl to release the trapped cold air.
5. Assign a short paragraph describing where you think the air pollution goes after a big wind breaks up the inversion for homework.

Days Four and Five – Role-Play, City Council Meeting

1. Briefly review answers to assignment. Introduce role-playing activity. Show students a list of proposals to be acted upon by the council. Discuss list. Make additions or

changes to list of proposals.

2. Distribute role-playing cards to students. Allow them to meet with others in their "group." Teacher should thoughtfully select three members for the city council, as they will have to be good listeners, responsive problem solvers, and tough decision makers.
3. Groups plan how to argue their opinions before the council. They may want to research their arguments for tomorrow's presentation. City council members should study proposals and costs. They may need to find out more about these for tomorrow as well.

NEXT DAY

4. Council calls meeting to order. They put the list of proposals on the overhead and explain the costs involved. They then open the floor to discussion.
5. Individuals from special interest groups and concerned citizens take turns speaking their opinions about the different proposals.
6. Council members take notes and ask questions to clarify what they hear.
7. After everyone has the opportunity to argue her/his opinion, council members retire to their chambers to confer. Given adequate time, they are asked to decide upon actions they will take and report their decisions to the group.
8. Homework: write your opinion of the council meeting. In the first paragraph explain how you think the meeting was profitable. In the second paragraph suggest some improvements for the procedure. In the final paragraph, suggest any new proposals you would like to bring up for discussion at the next city council meeting.

Evaluation:

Evaluation for each lesson is contained in the homework assignments.

Cultural Geography - Five Themes in a Pot

Presented by Sharon McDermott

Overview:

This activity is designed to integrate anthropology and geography in evaluating elements of cultural attributes and physical characteristics of an environment.

Grade Level:

Intermediate grades

Time Needed:

Two 45-minute sessions

National Geography Standards:

10. The nature and complexity of Earth's cultural mosaics
15. Physical systems affect human systems
17. How to apply geography to interpret the past

Connections to the Curriculum:

Objectives:

1. Students will identify geographic regions and classify certain plants and animals associated with them.
2. Students will construct and reconstruct a culture group according to physical geographic attributes.

Materials:

Clay flower pots	wrinkled brown paper representing animal hides
chalk	paints
sharp markers	hammer
5x7 index cards	large brown grocery bags to hold pots for breaking
glue (tacky glue is best)	examples of symbols of different cultures

Procedures:

Day One

1. Form groups of 3-4 (this activity can also be done with individual students)
2. Discuss problems that social scientists have in trying to reconstruct what the physical geography of an area was like many years ago.
3. Identify the term "regions" and how it can be used to categorize and classify a variety of areas. Regions are arbitrary collections of features used by geographers and other scientists to classify a broad range of characteristics. In this lesson, focus on physical land regions and features usually associated with them. List the major land regions of earth on the board. Discuss the human activity and adaptations that go along with the geographic regions.
4. Assign groups of students the task of creating a culture in a region of their choice. As a group they are to list attributes found in their region: animals, plants, landscape, and shelters. They are to design symbols that represent their culture and environment and then transfer them to their clay pot. Students should strive to be complete in showing all aspects of their culture and produce a beautifully decorated pot. All students must draw at least three attributes. Students also need to make a key on the animal hide that depicts meaning of symbols on the pot. This activity is done quietly so that other groups are not aware of each other's culture. On a 5x7 card, members will write one or two paragraphs describing their cultural attributes. Teacher collects the cards, hides, and pots are placed in brown grocery bags with group name or number. **DO NOT TELL STUDENTS THAT YOU WILL BE BREAKING THEIR POTS. SURPRISE is a KEY ELEMENT to this activity.** Lead them to believe that the pots will be judged for their aesthetic qualities.

Day Two-Analysis and Synthesis

5. Teacher dramatically breaks the pots with hammer while pots are still in the brown bag. Make sure each pot is hit several times so that the pot is reduced to 8-10 pieces. Redistribute each bag to a different group. Groups must now become archaeologists trying to piece together the pot and reconstruct the cultural and

- geographical regions. On a 5x7 "after" card, members write one to two paragraphs analyzing the attributes on the pot. Members take turn gluing and writing.
6. Share and evaluate interpretations of symbols and stories by having one member from each group stand and show the class the glued pot and read the 5x7 card. Comments are welcomed by the other members of that group and their conclusions are stated. They are to answer questions from the remainder of the class. Teacher then reads the 5x7 card written by the group that designed the pot, the "before" card, to see if any of the attributes match. Each group follows this format until all groups have spoken.

Evaluation:

- Discuss what was learned about the region and the culture from archaeological finds.
 - They are arbitrary.
 - They have features with certain commonalities.
 - They can change over time either by natural forces or by human forces.
 - The reconstruction of geography is important in learning the history of the land and the people.
- Have students write a journal entry to describe how geographers and archaeologists work together to interpret the past.

Extensions or adaptations:

Alter the activity to focus on a specific region, like the southwestern United States and Mexico. Use When Clay Sings by Byrd Baylor to introduce the activity. Use Mayan symbols.

Geographical Postcards

Presented by Lynn Ramirez

Overview:

Postcards are pictorial geography. They connect us to far away places and people we love. They are always exciting to receive and help to add to our mental maps of the world. Postcards spark our interest and imagination subconsciously advertising the five themes of geography.

Grade Level:

Grades 1-12 (with adaptation)

Time Needed:

2-3 class periods

National Geography Standards:

- 4. Physical and human characteristics of places
- 6. Culture and experience influence perception of places and regions
- 10. The nature and complexity of Earth's cultural mosaic
- 12. Human settlement

14. Human actions modify physical environment
15. Physical systems affect human systems
16. Meaning, distribution, and importance of resources
17. How to apply geography to interpret the past
18. How to apply geography to interpret the present and plan for the future.

Connection to the Curriculum:

Social Studies, Language Arts, Art

Objectives:

1. Students will create their own five postcards illustrating their community using the five themes of geography.
2. Students will use mental maps to identify the relative and absolute location of places within their community.
3. Students will observe, draw, and discuss physical and human characteristics of their community.

Materials:

Purchased postcards to be used as examples
Index cards
Pencils, colored pencils, crayons
World map
"Peelable" sticky dots

Procedures:

1. Distribute one sticky dot to each student. Have students recall a memorable place they have visited as they place a sticky dot on the world map to show that place. Once the students have returned to their seats, ask them what made that place memorable.
2. The next step involves providing examples of postcards you, as a teacher, have collected. Ask the students how postcards depict geographical information about place. You may wish to write the student's ideas/responses on the board. Introduce the five themes of geography. Have the students categorized their ideas from both the board and purchased postcards into the five themes of geography.
3. Direct the students to imagine that they are now in the postcard production business for their community. Brainstorm what aspects of their community they would illustrate if they were to design their own postcards. At this point introduce the assignment. They are to draw five postcards of their community showing the five themes of geography. They should briefly explain the picture, which themes it represents, and why they selected and drew that particular image/picture. This information should be written on the back of each "postcard."
4. As a means of display the cards could be stapled to ribbon and then hung from the ceiling of the classroom as mobiles.

Evaluation:

1. A participatory grade should be assigned to each student which evaluates their ability

- to work cooperatively and independently, follow directions, focus on project success, and overall effort. Assign a grade for artistic impression.
2. Use postcard as basic questions for a testing mode where other students must correctly identify the featured theme of geography.

Extensions

1. Using the five themes in a creative writing project.
2. Use this exercise as a means of enhancing verbal skills. Students could deliver their explanations orally in front of the class or within their group.
3. Students could be assigned to dramatize an event that took place in the scene depicted on their postcards.
4. When this project is completed, consider sharing the student-generated work with another school in a different community to help establish pen pals.

Mapping the News

Overview:

In this lesson, students will maintain a bulletin board map of the United States or the world to provide a visual display of each week's current events. Headlines, pictures, magazine covers, and political cartoons are analyzed for content of the five themes of geography: location, place, region, human/environment interaction, and Movement-and then displayed by location. Students identify and label significant "hot spots" in the country or the world.

Grade Level:

Grades 7-12

Time:

One class period per week. Once students are accustomed to the process, it will probably require less time, possibly as little as 30 minutes a week.

National Geography Standards:

1. Maps and other geographic tools for information in a spatial perspective
3. Spatial organization of Earth
18. How to apply geography to interpret the present and plan for the future

Connection to the Curriculum:

Any social studies class that contains a current events curricular component, especially American government, comparative government, international relations, world geography, world history, or world cultures.

Objectives:

1. Students will study current events consistently throughout the semester on a weekly basis.

2. Students will reinforce their understanding of the five themes of geography through consistent application and analysis.
3. Students will appreciate the stimulation of a permanent visual display of world or national events.
4. Students will work in teams to gather and analyze weekly current events information.
5. Students will sharpen critical thinking and discussion skills through the weekly selection of the most significant happenings.

Materials:

Oversized United States or world map
 Weekly headlines, pictures, magazine covers, or political cartoons
 Colored pencils or markers
 Scissors
 Yarn-red, blue, green, yellow, purple
 Tape

Procedures:

1. Arrange to have an oversized map of the United States or the world permanently mounted on a wall or bulletin board in your classroom.
2. Designate one day of the week for this activity. Clip 25-30 headlines, pictures, magazine covers, political cartoons, etc. from newspapers and news magazines that cover all aspects of current events for that week. You can alternate between national and international affairs or attempt both at once. The teacher provides these materials in the first basis for collecting data.
3. Assign students to teams of two or three. Rotate the teams once a semester. Give each team two or three headlines, pictures, magazine covers, political cartoons, etc. The team analyzes the content of each item for its application(s) to the five themes.
4. Students then select the appropriate yarn for the themes they have identified: BLUE for Place; RED for Location; YELLOW for Human/Environment Interaction; GREEN for Movement, and PURPLE for Region. They will have a minimum of one color or as many as all five. The yarn pieces are attached to the back of the selection.
5. Students then tape their headline or picture around the edge of the map, gently twist or braid the yarn pieces and attach the free end to the exact location referred to in the piece. Students should be prepared to defend their five themes analysis either formally or informally.
6. Once all the headlines, pictures, and political cartoons have been analyzed and mounted on the large map, students must decide as a class where the "hot spots" in current events are that week.
7. Once some consensus has been achieved, attach laminated "hot spot" symbols to those locations. Consider a minimum of six, probably a maximum of ten. As news events begin to reoccur week after week, students will be able to easily identify the critical areas of the world.

Evaluation:

Give secondary students biweekly current event quizzes, an occasional essay dealing with

current events, and/or a section on current events in their final exam.

Extending the Lesson:

This ongoing class project will enrich student work in a variety of ways as they draw on their knowledge of current events issues for specific examples. As you study related lessons in American government, comparative government, international relations, world geography, world history, or world cultures, the application of this approach will become even more relevant and meaningful.

Resources:

National Geography Awareness Week *Geo News Handbook*. Washington, D.C.: National Geographic Society, 1990. (It is now out of print, other teachers may have old copies.)

Geography's Five Themes In the News

1. Location

- a. Where does the story take place (city, state, or territory, country, continent, longitude, latitude, hemisphere)?
- b. What is the capital of the country?
- c. What is the most populous city there?
- d. What is the time difference between the location of the news event and our community?

2. Place

- a. Describe the climate.
- b. Describe the physical features of the country (mountains, rivers, deserts, coastlines).
- c. Identify and describe the people who live there.
- d. What are the distinctive cultural traditions of the country (food, dress, customs)?
- e. How is the place similar or different from your community?

3. Human/Environment Interactions

- a. What is the primary use of the land in the region where the story takes place (agriculture, mining, industry, tourism)?
- b. Give examples of how the people living there have altered their environment, and examples of how the environment has influenced their lives.
- c. Where do most people live (near a coastline, near a river, in the mountains)?
- d. Compare this area of the world to your area. List the similarities and the differences.

4. Movement

- a. What are the major exports?
- b. What are the major imports?
- c. Where are the major airports?
- d. Describe the country's railway system.

- e. List major ports (if any) and describe their locations.
- f. How many TV sets, radios, and motor vehicles are there per capita in the country?

5. Regions

- a. What are the country's major languages?
- b. What are the country's political divisions (states, providences, republics)?
- c. What are the vegetation regions (grasslands, rain forests, other)?
- d. How is the country similar to its neighbors in language, culture, religion, and traditions?

Now that you know more about the geography of the country in the news, think about why the event happened there. What are the connections between the news event and the geography of the country? Do you think the news event occurred because of the physical or cultural characteristics of this particular place?

MONTANA TOWN GAMES

Answer Key:

1. Emigrant
2. Wisdom
3. Two Dot
4. Walkerville
5. Ryegate
6. Libby
7. Homestead
8. Glen
9. Brookside
10. Pryor
11. Ruby
12. Lame deer
13. Ledger
14. Big Horn
15. Miles City
16. Antelope
17. Billings
18. Reserve
19. Sunburst
20. Swan Lake
21. Boulder
22. Anaconda
23. Broadview
24. Power
25. Shepherd
26. Belt
27. Twin Bridges
28. Cascade
29. Gardiner
30. Black Eagle

MONTANA TOWN GAMES

- 31. Three Forks
- 32. Butte
- 33. Churchill
- 34. Custer
- 35. Paradise
- 36. Whitefish
- 37. Hungry Horse
- 38. Roundup
- 39. Columbus
- 40. Moccasin
- 41. Hot Springs
- 42. Circle
- 43. Highwood
- 44. Ringling
- 45. Livingston
- 46. Marysville
- 47. Coffee Creek
- 48. Red Lodge
- 49. Lima
- 50. Rosebud
- 51. Sweet Grass
- 52. Laurel

MONTANA TOWN GAMES

Identify the correct Montana Towns using the following clues

1. A person leaving a place
2. Great Learning
3. A colon
4. Hiker's town
5. A grain and a closure
6. A famous cannery
7. On what the old settler squatted
8. Area between hills
9. Beside the pond
10. Before this
11. A red gem
12. A crippled wild animal
13. Book of accounts
14. A kind of sheep
15. A town two times 5,280
16. A Pronghorn
17. Monthly charges
18. To hold back
19. Solar explosion
20. A famous ballet
21. A large rock
22. A large snake
23. Wide sight
24. Energy
25. The keeper of the flocks
26. To hold up your pants
27. Double crossing
28. A steep, small waterfall
29. A man who works in a flower bed
30. A dirty bird

31. Some table utensils
32. A high hill
33. A great ruler
34. Called "yellow hair"
35. Where we would like to go someday
36. Albino tout
37. A famished animal
38. A gathering of cattle
39. A famous sailor
40. A type of footwear
41. A thermal fountain
42. A figure with no beginning or end
43. Elevated fuel
44. A famous circus
45. A famous African explorer
46. A girl's town
47. A beverage stream
48. A crimson teepee
49. A kind of bean
50. A young flower
51. Sugared hay
52. An ancient Greek wreath worn by a hero

APPENDIX

Glossary of Geographic Terms

Altitude - height above sea level

Archipelago - broad area of water containing several islands. Also a group of islands.

Arm - inlet from the sea.

Atoll - small circular island formed by coral sea animals

Bank - steep side of a stream

Basin - low place in surface of land; often occupied by a body of water at the lowest point

Bay - inlet from an ocean or gulf bordered by land

Bayou - Slow sluggish stream

Beach - pebbly or sandy shore of a sea or lake

Bluff - steep high bank beside a body of water

Bog - area of wet, spongy ground

Branch - small stream or creek emptying into a larger stream

Breakers - waves breaking into foam as they approach the beach

Brink - edge at the top of a bluff or cliff

Brook - natural stream of running water smaller than a creek

Canal - man-made channel filled with water used for navigation

Canyon - deep narrow valley having high, steep sides

Cape - narrow piece of land projecting into the sea

Cave - deep hollowed-out area under Earth's surface

Cavern - large cave

Channel - narrow deep strip of water

Cliff - steep rocky face of a bluff

Coast - land along the sea

Continent - largest areas of land on Earth

Continental Shelf - shallow sea area near the continents

Country - nation or area of land that has one government; thinly populated areas

Cove - small sheltered inlet from a body of water

Crater - bowl-shaped opening at the top of a volcano
Creek - natural stream of running water
Current - swiftly moving part of a stream
Dale - small valley
Dam - wall built across a stream to hold back water
Dell - small sheltered valley or ravine
Delta - land created by soil deposited by a river at its mouth
Desert - large area of land with very little moisture or vegetation
Divide - water parting or watershed which separates two drainage areas
Dune - hill or ridge of sand piled up by the wind
Elevation - height above sea level
Estuary - narrow arm of the sea at the mouth of a river where the ocean tide meets the river current
Fall line - line connecting the places where streams go from uplands to lowlands. Fall lines usually have waterfalls or rapids
Fjord - deep, narrow inlet of the sea between steep banks
Foothill - hill at the base of a mountain
Ford - shallow place where a stream may be crossed by wading through the water
Forest - large area of land covered with trees
Glacier - large sheet of ice formed in an area at high elevations
Glen - small valley usually long, narrow, and with steep sides
Gorge - narrow passage between steep mountains or hills; steep rocky ravine
Grove - group of trees smaller than a forest
Gulf - area of water bordering a curved coastline. Gulfs are larger than bays.
Harbor - sheltered body of water where ships anchor and are protected from storms
Hill - small area of land that is higher than the land around it
Horizon - line where the Earth's surface and sky seem to meet
Iceberg - huge block of floating ice
Inlet - small opening between a small and larger body of water
Island - area of land surrounded by water
Isthmus - narrow piece of land joining two larger bodies of land
Knoll - small, round hill
Lagoon - pool of shallow water connected to the sea by an inlet
Lake - body of water surrounded by land
Marsh - area of low, wet, poorly drained land
Meadow - area of level land where grass is grown

Mesa - flat-topped, rocky hill with steep sides

Mine - pit from which coal and other minerals are taken by digging

Mountain - high elevation in Earth's surface

Mountain range - series of connecting mountains

Oasis -fertile spot within a desert watered by underground springs or irrigation

Ocean - one of the five largest bodies of salt water on Earth's surface

Pass - opening through hills or mountains

Peak - highest part of a mountain

Peninsula - body of land surrounded on three sides by water

Piedmont - area of rolling land along the foot of a mountain range

Plain - large level area of elevated land

Plateau - a large area of tableland, elevated above the surrounding landscape

Pond - body of water smaller than a lake

Prairie - natural grassland

Precipice - very steep cliff

Rapids - water flowing rapidly over rocks

Reef - series of rocks in a body of water. Tops are just beneath the surface.

Reservoir - man-made lake

Ridge - long, narrow, elevation of land

River - large stream of water of natural origin which drains an area of land and flows into another body of water

River mouth - point where a river empties

River source - point where a river begins

Sandbar - long, narrow band of sand in a body of water

Sea - large body of water nearly surrounded by land

Sea level - average level of the surface of the ocean along a shoreline

Shore - land bordering a sea, lake or river

Sound - long, narrow body of water connecting two large bodies of water. A sound is larger than a strait

Strait - passageway of water connecting two large bodies of water

Stream - flow of moving water from natural origin

Swamp - area of low, wet spongy land

Summit - highest part of a hill or mountain

Tide - alternate rise and fall of the water level of a lake or ocean. Tides are caused by the gravitational pull of the moon

Timberline - line on a mountain above which trees do not grow

Tributary - stream which flows into another stream

Upstream - direction from which a stream is flowing

Vale -low land between hills or mountains

Valley - land between hills or mountains. Valleys usually contain a stream.

Volcano - cone-shaped mountain formed by lava and cinders erupted through a crater

Waterfall - stream of water dropping over a dam or precipice

Watershed - elevated land or divide separating two drainage areas; an area drained by a river

Waves - moving swell of water that rises and falls as in the ocean or a lake

Whirlpool - any place where water flows in a small circle caused by the current of a stream striking a bank or by two currents meeting

The Five Themes of Geography

I. Location: Where is it?

Location describes a position on the Earth's surface. Absolute and Relative locations are the two ways of describing the positions of people and places on the earth's surface. Latitude and Longitude describe absolute location. Relative location has to do with the interaction of places and their relation to one another.

II. Place: What is it like?

Place describes physical and human characteristics of a certain area. All places on earth have distinctive tangible and intangible characteristics that give them meaning and character and distinguish them from other places. What are the human and physical characteristics that make a place unique?

III. Human/Environmental Interaction: What do people do there?

All places on earth have advantages and disadvantages for human settlement. All peoples relate to their environment and change it in different ways. How have people adapted to or changed their environment?

IV. Movement: How do people interact?

The mobility of people, goods, and ideas represent movement. Human beings occupy places unevenly across the face of the earth, and yet interact with each other, creating relationships between and among places. People move between places, and may carry tangible goods or intangible ideas as they move across the surface of the earth.

V. Regions: How are areas the same?

The basic unit of geography is the region; an area that displays unity in terms of selected criteria. Region describes areas that have similar characteristics.